Borough of Swindon
EDUCATION COMMITTEE.

Annual Report

FOR THE YEAR 1928.

OF THE

School Medical Officer,

DUNSTAN BREWER, M.R.C.S., L.R.C.P., D.P.H.

John Drew (Printers) Ltd., 51, Bridge Street, Swindon.

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EDUCATION COMMITTEE.

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Assistant School Medical Officers—F. W. OLDERSHAW, M.R.C.S., L.R.C.P., D.P.H.
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Specialist Ophthalmic Surgeon.

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KENNETH A. LEES, O.B.E., M.B., B.Ch., (Cantab.) F.R.C.S., (Eng.)

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Head Clerk—S. MANSFIELD DEE.

Assistant Clerks—MISS GLADYS L. NORRIS.
JOHN W. DAY.

School Nurses—

Miss A. M. HOARE.
2 *years Certificate of Hospital Training.*
Certificate of Central Midwives Board.
Certificate of the Royal Sanitary Institute.

Miss I. D. SAMPSON.
3 *years Certificate of Hospital Training.*
Certificate for Tuberculosis (Royal Chest Hospital, London).
Queen's Nurse.
Certificate of Central Midwives Board.

Miss E. M. PILCHER.
3 *years Certificate of Hospital Training.*
School Nurses and Health Visitors and Tuberculosis Certificate.
Certificate of the Royal Sanitary Institute.

Miss A. HAWKINS.
4 *years Certificate of Hospital Training*
Certificate of Central Midwives Board.

BOROUGH OF SWINDON.

EDUCATION COMMITTEE.

Area	6021 Acres
Number of Elementary Schools	15
Number of School Departments	33
Recognised Accommodation	10956
Number of children on Register	9207
Average Attendance	8083

Number of Secondary Schools	3
Number of Scholars on roll :—	
The College Secondary School	279
Euclid Street Secondary School	236
Commonweal Secondary School	287
	802

To the Chairman and Members of the Education Committee of the Borough of Swindon.

LADIES AND GENTLEMEN,

I have pleasure in presenting the report upon the Medical Inspection and Treatment of School Children in the Borough for the year 1928.

Dr. G. W. Fleming, Assistant Medical Officer of Health and School Medical Inspector left the services of the Borough on 29th February, 1928, and Dr. F. W. Oldershaw, appointed in his place, took up duty on the 1st May, 1928. Nurse L. M. Griffin resigned and Nurse A. Hawkins took over her duties on May 25th, 1928. In spite of the interval between Dr. Fleming leaving us and Dr. Oldershaw taking up duty, the work done in the School Medical Department was, on the whole, greater than has ever been done before, though some of the activities of the department had to be curtailed, notably the X-ray treatment of ringworm and the treatment of ear disease by ionisation. The numbers of routine medical inspections carried out in 1928, an increase of the Entrants, a large increase of the Intermediates and a marked diminution of the Leavers, show the influence of the fluctuations of the birth rate which occurred after the war. But in this connection account must be taken of the inclusion of the Rodbourne Cheney School which came under the Borough with the extension of the boundaries in October. The alteration of the Borough boundaries did not in fact make great difference in the work of the School Medical Department, because the children in the added area formerly attended Swindon Schools, and Swindon Clinics, with the exception of those attending the Rodbourne Cheney School, which has a roll of 435 children.

1928 was a most difficult year for child life. Epidemic diseases, especially scarlet fever, measles and whooping cough, were highly prevalent. The first took no toll of life, but 15 children died from measles and 13 from whooping cough. On the whole, the work of the Department progressed smoothly, though certain difficulties arose in connection with the Secondary Schools, which led to the curtailment of our work amongst adolescents.

FINDINGS OF MEDICAL INSPECTION.

There was a notable drop in the cases of ringworm, and a slight increase in cases of enlarged thyroid gland, but with these exceptions the findings for 1928 were similar to those of 1927.

MENTALLY DEFECTIVE CHILDREN.

There is a school for educable mentally defective children in Swindon, which in the past catered mainly for the low grade class and so became unpopular. During 1928 an attempt was made to utilize this school for more favourable cases of high grade mental defection, but parents have the greatest objection to sending their children to this school. We have now a fairly accurate idea of the extent of mental defection amongst the Swindon children. There are 72 mental defectives on the register, but a number of these are under school age and some are over it. Most of these defectives are either attending public elementary schools or are at no school or institution. In some of the larger schools there are special classes for defective and backward children, but the whole subject of the education of the educable defective requires to be re-considered.

THYROID DISORDERS.

The investigation into the disorders of the thyroid gland was continued during 1928. The number of children found with enlarged thyroid on routine inspection, namely 41 elementary and 4 secondary school scholars, compared with 34 elementary and 7 secondary for 1927, gives about the same percentage for the two years. The investigation into this condition will be continued until the end of 1930, when it will be possible to publish a final report.

EAR, NOSE AND THROAT DISEASES.

The management of Ear, Nose and Throat Diseases is now on a satisfactory basis which the institution of a Special Clinic held by Mr. Kenneth Lees rounded off. Unfortunately, for a time, the Ionisation Clinic had to be suspended. This will be opened again early in the new year.

RHEUMATISM.

Swindon is in the area of Bristol for the investigation of child rheumatism. Rheumatic heart disease is not common in Swindon children. Last year 22 cases were discovered and referred to the special clinic held by Dr. C. E. K. Herapath of Bristol. Some years must elapse before a report upon this important research work will be available.

RINGWORM.

The number of cases of ringworm (82) discovered in 1928 is the lowest for very many years. The annual numbers since 1921 were 186; 227; 154; 166; 170; 122; 134. If we go back to 1920, we find that the number recorded is only 21; but it was towards the end of 1920 that it was seen that these returns were ridiculous, that ringworm was in fact rampant in the Borough, and a campaign against it was inaugurated. In reporting for the year 1921 when the attack was started, we note, " the investigation showed that the disease was much more prevalent than was suspected." The report of 1922 showed that we were getting to grips with the situation, but had met with considerable difficulty. The difficulties, apart from those due to the nature of the disease itself, were got out of the way in 1923. In 1924 we knew the exact extent of ringworm in the Borough, and had introduced means for controlling it as far as possible. The numbers which are given against the years 1922 to 1928 represent the number of children of school age with ringworm in the Borough of Swindon and therefore includes both new cases discovered during the year and also cases left over from previous years. We may well ask the questions: why in the year 1920 were there only 21 cases of ringworm among the school children of Swindon, and why did the numbers increase tenfold? The answer is that the number for 1920 does not represent the number of cases of ringworm that were present at that time. It represents the number of children with ringworm who were presented for examination either routine or special.

The first thing that was found out in the inquiry was that children with ringworm were either not on the school registers, had been removed from the school registers, were kept away from school for very long periods, or were not presented for examination. It was decided at that time, (*i.e.*, 1921), that in all inquiries dealing with school children there was one basis from which to start, the population figures. As time went on and the attitude of the public towards ringworm and the method we adopted for dealing with it, changed from hostility to appreciation, it became quite easy for future work to be based upon the school registers. The numbers recorded for the last five years are as accurate as it is possible to obtain. The diagnosis of ringworm rests upon microscopic examination and the decision as to whether it is cured rests also upon microscopic evidence which is the only trustworthy method by which the presence or absence of the disease can be recognised. Under the name ' ringworm ' are included several different forms of fungoid diseases which can be broadly divided into two groups: those due to *microsporon audouini* and those due to various species of *trichophyton*. The latter, the large spored ringworms, occur on all parts of the body; they are highly infectious from various domestic animals to man, less highly infectious from man to man; they occur at all ages, and they can be easily and speedily cured. When anybody announces a wonderful cure for ringworm it means that he has struck an outbreak of the large spored ringworm, which anybody can cure, and when he brings the same remedy to deal with the common form of ringworm, he gets a broken heart and a ruined reputation. Ringworm caused by the *microsporon* is a strictly human disease, limited to man before puberty ; it affects the scalp only ; it is incurable without epilation, and it disappears at the onset of puberty. This disease has a curious geographical distribution ; it is very common in England, less common in Scotland and France, and is rare in Germany and the United States. It is doubtful if it can ever be cured without epilation, so that the treatment of it consists in epilation. Epilation by hand with lens and forceps is the best means, but the time required is prohibitive. Epilation by X-rays is that which is most often used, and is generally the most satisfactory. Now-a-days there is no danger of X-rays causing permanent baldness, but the disease sometimes reappears when the hairs regrow. Another means of epilation is by the internal administration of Thalium Acetate. This drug possesses the extraordinary power of epilating the scalp and leaving the rest of the body unaffected. Its use at present is only advisable under certain conditions and with certain most rigid safeguards, for a substance with such a weird action requires very close watching. In Swindon this treatment is being used on a few cases in which all precautions can be observed. Thallium Acetate epilates far more rapidly than X-rays and the hair returns much quicker. It is generally considered inferior to X-rays because the period of total baldness, which is the only period in which microsporon ringworm can be cured, is considerably shorter, but it is probable that we shall find that this shortening of the period of baldness is an advantage and there is a possibility that Thallium Acetate has an action, not upon the fungus itself, but upon the hair follicle, which inhibits the growth of the fungus when the hair regrows. One great advantage of Thallium over X-rays is that its cost is about 1/20, and the time and trouble required is less than 1/10. The Board of Education in their last Annual Report say emphatically that they will not allow the use of Thallium Acetate for the treatment of ringworm in school children except under very special conditions. In this they are unquestionably right, for our knowledge of the drug and its action is still very imperfect.

Though the cure of ringworm is the chief aim of the ringworm campaign, a subsidiary aim of almost equal importance is to keep the disease under control, so that the children's education need not be interfered with, and the danger of their infecting others reduced to insignificance. With proper control ringworm will not spread in school. The exclusion of children with ringworm results either in the children being bebarred from education for many years, or else their being kept from school for some months and being returned when they are apparently cured, but when microscopic examination will show that they are not cured, and are still capable of spreading the disease. Consequently for years in Swindon, children with ringworm have not been excluded from attending school. As will be seen from the figures, the number of children with ringworm is now declining considerably, but the disease has not been suppressed at the rate that we could wish. It is hoped, however, in the new year, to be able to give considerable more X-ray treatment and so obtain a very much larger number of quicker cures. A few more cases may also be given Thallium treatment, but it is well to emphasise again that this treatment can only be given under exceptional circumstances. It is necessary to repeat this because the parents of those children who have been treated in this way are highly delighted with the result, and an increasing number of parents ask for it.

PROVISION OF MEALS.

The Education (Provision of meals) Acts of 1906 and 1914, were in force in the Borough throughout the year. The scheme for carrying out this work remains similar to what was in vogue last year. It is extremely simple, easy to administer and very cheap, but efficient for dealing with local needs.

SCHOOL BATHS.

There are no School Baths in Swindon, nor indeed are there any public baths. The Great Western Railway Medical Fund Society possess private baths and swimming baths which, for all practical purposes, are open to the public. The swimming instruction of the scholars is carried out in these baths.

EMPLOYMENT OF CHILDREN AND YOUNG PERSONS.

There is no employment of young children in Swindon. The Juvenile Employment Committee looks after children and young persons and this Committee is in constant touch with the School Medical Department. Since practically all the children in Swindon are known to the School Medical Department, which possess life records of them during their childhood, co-operation is comparatively simple.

SPECIAL INQUIRIES.

The special inquiries that are at present being carried out by the School Medical Department in Swindon are as follows :—

(1) An inquiry into the distribution and causes of thyroid disease.

(2) An inquiry into the histories and environment of rheumatic children.

(3) An inquiry into the blood changes of childhood.

(4) An inquiry into the pulse rate and blood pressure during school age.

(5) An inquiry into the histories and environmental factors of children whose life history is known throughout and who develop tonsils and adenoids requiring operation.

(6) Treatment of ringworm by Thallium Acetate.

PHYSIQUE OF SWINDON SCHOOL CHILDREN.

A Departmental Committee of the Board of Education engaged in an Anthropometrical Inquiry considered some material from Swindon. This material deals only with boys of the mean age of 13.3. The Committee informs us that the mean height of Swindon boys is 58.7 inches against the expected height of 57.2 inches and that this height is significantly above the standard to the extent of 1.5 ± 0.32 in. The mean weight is 81.5 lbs., against the expected weight of 78.0 lbs., this weight being significantly above the standard to the extent of 3.5 ± 1 lbs.

EXAMINATION OF SECONDARY SCHOOL CHILDREN,

The admissions to the secondary schools gives a very fair idea of the physique of the Swindon School children. Nearly all the secondary school children are transfers from the elementary schools, between the ages of eleven and thirteen years. To some extent these are a selected class, because they are chosen by examination and, in general, it may be said, that a child whose mentality is superior will also be superior in physical state, in development and in nurture. Even when these factors are taken into account, the high health standard of these children is remarkable and is the best evidence of the value of child welfare.

TREATMENT OF SCHOOL ACCIDENTS.

For many years past the School Medical Department has been held responsible for the preliminary management of accidents to children which occur in school. In 1928 some question was raised by the Governors of the Secondary Schools relating to this matter, and the following report was drawn up and presented to the Education Committee. This report is self-explanatory of the position which has been ruling in Swindon for some time and which remains unaltered.

To the Chairman and Members of the Medical Inspection Sub-Committee.

A resolution from the Governors of the Secondary Schools dealing with the question of the treatment of accidents to school children by the School Medical Department came before you at your last meeting when you decided to refer back the resolution and to ask your School Medical Officer to report upon the subject.

The resolution itself clearly indicates that there is some misunderstanding in regard to the treatment of school accidents carried out at the Clinic. Prior to 1921 the School Medical Department had nothing to do with accidents occurring to children on school premises, but in that year a case was met with in which a child had been permanently crippled owing to an accident which had occurred in school and which had not been properly treated. This brought forward the question as to whether such calamities were preventable and by what means they could be prevented. Inquiry quickly brought to light that a considerable number of children suffered permanent damage as the result of accidents which at the time, appeared to be trivial. In 1921, the Committee acting upon the advice of the School Medical Officer, passed a resolution that every child injured upon school premises should be seen at once by one of the Committee's Medical Officers, who was to investigate the accident and decide what treatment was called for. For the last seven years on the occurrence of an accident in school, the Head Teacher has either rung up the Public Health Department to ask for a medical officer to come to the school and investigate ; or, if the accident was one in which there was no question that the child was fit to be moved, to send the child down to the Clinic to receive attention there. Experience has taught us that these accidents to children are of four degrees of severity :—

(1) Those which are serious and which require to be got under treatment without any delay and in which the question of removal is a problem,—for instance a broken thigh. The procedure here is clearly laid down. The School Doctor after rendering such first aid as is necessary to prevent damage by moving, sends for the child's parent, if the Head Teacher has not already done so ; explains to the parent what is required, and leaves the decision to the parent whether the child should be removed to hospital or taken home and placed immediately under private treatment. Arrangements are then made for the removal of the patient by ambulance or taxi-cab, etc., and a note by the School Doctor is sent either to the hospital or to the medical attendant.

(2) Cases of severe injury in which the patient is mobile. These are seen on the school premises as a rule, though sometimes they are sent down with a teacher to the Clinic. These are mainly fractures of the arms. In these cases the School Medical Officer is called upon to make a diagnosis. Under all circumstances in which injury to the bones and joints is a possibility, the case is X-rayed before any attempt is made to deal with it. The case is then given the preliminary treatment which is required, the parent is seen, told what is found and what is required, and is given a note to take either to the Hospital or to his own doctor, stating what has been found and what has been done. Something considerably more than first aid is necessary. The correct surgical treatment for the time being must be given and written and photographic evidence taken to prove that this primary treatment was the correct treatment under the circumstances.

(3) Mild injuries. Cuts, bruises, scratches, etc. These are dealt with at the Clinic, for the first time by one of the Medical Officers, and according to circumstances are either referred to the patients' own medical attendant or else are treated throughout in the Minor Ailment Department and seen again if necessary by your Medical Officers.

(4) Cases which are doubtful. These are almost without exception injuries to joints, particularly to the elbow and wrist, generally, apparently quite trivial. Owing to the anatomical conditions of the joints in childhood, these apparently trivial accidents may have very serious consequences by interfering with the growth of the limb and the movement and utility of the joints. Up to 1921 these cases were almost invariably neglected. Since that date, all have been seen and X-rayed immediately after the occurrence of the accident. Should either the X-ray or the physical examination show any serious damage, the case is treated as a major accident ; but should no such evidence of damage be brought to light, the case is watched by the School Medical Officer or his Assistants until it is obvious that no real damage has been done, or, that the case not clearing up at once, it is advisable for a further opinion to be sought. These cases give trouble, as they are one of the greatest difficulties with which the medical profession has to deal. Experience has told us that it is perfectly useless, in the majority of cases, to refer these cases to the parents' usual medical attendant. There is little or nothing to be seen and parents generally conclude that it is not worth while to bother about them and they are in fact neglected. If, however, the parents do take the children to see their own doctor, it is unusual for

him to be in a position to decide whether there is any injury or not, because X-rays will not be immediately available and only available at all with considerable delay and expense. On the other hand, with the method which we have in being, the doctor will know that if such a case is referred from the Clinic there is reason to fear that there may be some obscure injury which is not apparent. As the result of this scheme of management, we have had no avoidable damage or deformity occurring from a school accident within the last seven years, except a case which was the excuse for the Governors' resolution in which all the statements alleged, including the occurrence of the injury itself, are disputed.

Accidents occurring to Children in places other than School Premises.

A very large number of small accidents occur to children on their way to school, leaving school, and at other times, and most of these are brought up to the Clinic by their parents, though not infrequently the children come to the Clinic on their own accord. In these cases advice is given to the parents as to what treatment is required, and should the injury be, as it generally is, of an insignificant character, it is treated at once and any subsequent dressing required carried out at the Minor Ailment Clinic as an ordinary minor ailment. These minor injuries are part of the general work of the Minor Ailment Clinic and form one of the chief reasons why the Board of Education places the Minor Ailment Clinic on a different footing from that of the other Clinics and excludes it from the list of provisions for which payment may be exacted. Because the majority of these minor injuries to children, which are frequently the starting point of septic sores and other more dangerous conditions, never did and never will receive treatment anywhere except at the School Clinics. It occasionally happens that cases of serious accident taking place in the neighbourhood of the Clinic, affecting not only children, but adults as well, and occasionally dogs, are lumped into the Clinic. The only business of the Official Medical Department is to get rid of such cases as quickly as possible. It is quite impossible to prevent the Clinic or any place, private or public, where medical attention might possibly be obtained, from being used for this purpose. Nor is it possible for any medical man, either public or private, to refuse to see such cases without running the risk of getting severely censured.

DUNSTAN BREWER,
School Medical Officer.

School Medical Department,
Swindon.

10th December, 1928.

SECONDARY SCHOOLS.

Owing to various causes the work done in the Secondary Schools during 1928 was less than had been done in previous years. Routine examination was limited to the Entrants and the supervision of the older children was reduced to attention only to those cases which were referred to us directly.

CONCLUSION.

The School Medical Service of Swindon has been developed to a state where but little alteration or addition is to be expected from year to year. The town has been exceptionally fortunate for the last twenty years in that employment has been good, its industries fairly stationary, and the influence of the great shocks which have disturbed most communities during the last two decades, has been comparatively slight. Though the town possesses no riches, it has comparatively little poverty, and the proportion of children who suffer from insufficient nourishment or care is probably lower than in any large town in England. The arrangements for the care of children have been made as complete and as easy as possible and the population generally is amenable and appreciative. In December, 1928, it became possible to circulate to the public the periodical of the Central Council for Health Education " Better Health," and though this paper has only been available three months, its demand has exceeded the supply. Much is expected from the public distribution of this paper, for besides supplying information of a reliable character, it will have a steadying influence in teaching the population how to deal with the extraordinary claims of advertisements and the unwarrantable assertions of quacks and enthusiasts.

Perhaps the greatest difficulty in the education of the public in healthy living is the practice of drugging. It is almost true to say that of the present day everybody uses drugs of some description—except physicians. It is, of course, absurd to say that drugs have no value, or that in cases of disorder they are not required, or advisable, but their value, even where their use is indicated, is comparatively slight, their danger is always considerable, and those which apparently have a beneficial action. at the time, are liable to produce far greater evils than they remedy Fortunately the people when they do take drugs seldom employ any other route but the mouth, and Nature has endowed our alimentary canal with the power of keeping out from the body most deleterious substances, with which we attempt to insult it, so that the majority of drugs and medicaments do little further harm than irritating the digestive machinery. But this is not the case with all drugs and, unfortunately, abuse of the alimentary canal is itself a serious danger. It may be hoped that, in course of time, when the rank and file of humanity become less grossly ignorant of the principles of biology, this pernicious habit of drugging will become, like the rest of witchcraft, an episode in the history of human stupidity. There is some evidence that, at long last, some attention will be paid to the teaching of biology. Those of us who have looked with dismay on the neglect of the study of the biological sciences, of the hapless ignorance exhibited, not only by the common herd, but by persons of high mental ability, highly trained in all other departments of human learning, see signs of some improvement. For in our educational system at present the teaching of biology is allowed, and in some of our more enlightened universities it is beginning to be encouraged. Sir Robert Phillip, in a recent address, said, " All human considerations must give place to biology." Though this was considered to be a revolutionary proposition, it is nothing more than a truism. Everything that man does, has done, ever will do, and ever can do, is controlled by biological action ; what is new is its recognition and that recognition must become general if man is to maintain his dominion on the earth. So long as our numbers were small and our wants few, there was no special need for man to trouble himself about the laws which govern his existence, but with the great increase of the human family, the enormous extension of its requirements and its desires, it has become necessary for man to exert his mentality, itself a biological function, in order to re-arrange, or to modify, the actions of natural forces which are, in general, biased in his favour.

DUNSTAN BREWER,
School Medical Officer.

February, 1929.

APPENDIX I.

REPORT OF THE SCHOOL DENTAL SURGEON.

To the Chairman and Members of the Education Committee.

Ladies and Gentlemen,

I have pleasure in presenting the Annual Report on Dental Inspection and treatment for the Year 1928.

13 Elementary Schools comprising 31 departments have been dentally inspected. Treatment has been carried out in eleven schools to the end of the year.

1,059 Parents attended at the Inspections.

79.9% of the children referred for treatment attended the Clinic.

ELEMENTARY SCHOOLS.

5181 Appointments were made, 4870 or 94% were kept.

3346 Teeth were extracted and 991 teeth were filled.

8301 Other operations were carried out including dressings, polishings and scalings.

5 Regulations were completed by means of Orthodontic appliances.

The Dental Nurse was present at practically all the sessions, and her services are greatly appreciated.

The practice of seeing all children up to nine years of age, and following up those who receive treatment is being continued.

The last half hour of each morning session (11.30 to 12) is reserved for ' Casuals ' (Those who have no appointments).

INFANT WELFARE.

205 children were attended to from the Infant Welfare Centre and 18 patients were treated and given advice from the Ante-Natal Clinic.

ROUTINE INSPECTIONS.

5388 Children were inspected in the schools.
1287 or 23.8% Children were found free from caries.
13 or .22% Children were found to require no treatment.
4088 or 71.8% Children were recommended for treatment.
2784 or 79.9% Children recommended for treatment attended the Clinic to the end of the year.

The total number, including Specials, who attended was 2893 and they made 4820 attendances. 1874 of those were rendered dentally fit as result of treatment.

SECONDARY SCHOOLS.

Dental Inspection was carried out at the three Secondary Schools. (The College ; The Commonweal ; and Euclid Street).

795 pupils were examined and 446 or 56% were recommended for treatment.

214 pupils were treated at the Clinic to the end of the year ; making 473 attendances.

128 teeth were extracted, and 317 permanent teeth were filled. 258 other operations were carried out, including scalings, dressings, and root treatments.

A detailed report of the Inspection is appended.

On behalf of the Dental Staff I express my thanks to the School Teachers and Members of the Medical Department for the assistance they gave us in this very important work.

W. KENYON BERRIE, L.D.S., R.F.P.S.G.,
School Dental Surgeon.

January, 1929.

APPENDIX II.

REPORT OF THE OPHTHALMIC SURGEON.

Ladies and Gentlemen,

I have the honour to submit my Report for the year 1928.

A very large amount of work has been done, through the help I have received from Dr. Fleming and after his resignation from Dr. Oldershaw. Most of the work has been of a more or less routine character, but here and there some cases of exceptional professional interest have occurred. The most striking of these was one of buphthalmos in both eyes with spontaneous dislocation of the lenses into the anterior chamber. In one eye this occurrence was followed by acute glaucoma but in the other eye this serious complication was forestalled by operative measures. In both eyes an attempt was made to extract the lenses, but in each case they slipped back into their normal position on completion of the section, and they have remained so ever since, some nine months having now elapsed since the dislocation. The treatment of this little girl and of a number of other children was carried out at the Oxford Eye Hospital, under arrangements made by the Education Committee.

I wish to again thank the Nursing and Clerical Staffs for their part in carrying on the work of the Eye Clinics.

O. B. PRATT, M.A., M.B., M.R.C.S., L.R.C.P.
Ophthalmic Surgeon.

March, 1929.

APPENDIX III.

REPORT OF AURAL SPECIALIST.

Ladies and Gentlemen,

I beg to submit my Report for the Year 1928.

During the year four Clinics have been held at 61 Eastcott Hill, and twenty eight cases have been examined, of these seven cases were found to need palliative treatment and twenty one were recommended for operation. In two cases consent was refused and of the nineteen remaining the operations were performed at the Victoria Hospital. An analysis of these cases shows that ten were cured by removal of tonsils and adenoids or adenoids only, four required operation on the nose for obstruction to the airway, and the remaining five needed operation on the ear. Of the latter which were the most serious cases, one underwent curettage of the ear for polypus, and four had a mastoid operation performed.

In the mastoid cases three operations were of the conservative type, *i.e.*, an improvement in the hearing was to be hoped for after operation, and in the last where the hearing was already destroyed, a radical operation was performed in order to eradicate the disease.

The period of occupation of the hospital beds varies in the different classes of cases. Tonsil and adenoid cases sometimes return home the same day, but are kept in a night or two should medical or domestic circumstances require it. Nasal operations generally require a few days in the hospital, while mastoid cases often occupy the beds for a period of six weeks.

The results of the operations have been very satisfactory and there has been no mortality or severe complications.

The Clinics are conducted more on a friendly basis than an official one in order to encourage parents to bring their children in the early stages of ear disease in the hopes of alleviating that disease before it is advanced and of preventing the onset of that deafness in adolescence and middle age which used to handicap the industrial worker in his employment.

KENNETH A. LEES,
O.B.E., N.B., B.Ch., (CANTAB.)
F.R.C.S., ENG.

March, 1929.

SUMMARY OF CASES SEEN BY Mr. LEES YEAR 1928.

Number of Clinics held	4
Number of cases examined	28
Number recommended for :—	
Operation for removal of tonsils and adenoids (Number of operations performed 7, refused 2)	9
Operation for removal of adenoids only (Number of operations performed 2)	2
Operation for removal of tonsils (Operation performed)	1
Cauterization of turbinates (Operation performed)	1
Reduction of R.I.T. & Inspection of L.I.T. (Operation performed)	1
R. cons. : Mastoid and curettage (Operation performed)	1
R. Rad. Mastoid (Operation performed)	1
L. Cons. : Mastoid (Operations performed)	2
Partial S.M.R. and adenoids (Operation not yet performed)	1
S.M.R. only. (Operation not yet performed)	1
R. Aural Curettage & Tonsils and adenoids (Operation not yet performed)	1
Ionisation	1
Otomassage two minutes to left ear for defective hearing.	1
Discharge either from Inflamed turbinate, enlargement or adenoids. No treatemnt necessary.	1
Flatten bridge and thickened septum. No obstruction	1
Deflected Septum. Not pathological	1
Mild eustachian obstruction. Politzer when necessary	1
Antra X-rayed. Quiescent. To be seen again if necessary.	1
TOTAL	28

APPENDIX IV.

RICKETS.

Rickets, as an obvious disease does not exist among school children born in Swindon, the few cases seen at school inspection being children who have come into the Borough since infancy. In the Child Welfare Department, rickets in the early stage is met with comparatively infrequently. So that as far as Swindon Borough is concerned, rickets is not a disease of childhood of great importance. With the system of Child Welfare that is at present in force in the Borough, it would, indeed, be an extraordinary thing for us to be seriously troubled with advanced stages of the disease, but the practice of infant care warns us that the chief adverse circumstances which lead to rickets, namely deficiency states, are the commonest and most important of all errors of late infancy. In such a comprehensive system of child supervision as that which we have established, we should, and we do, come across a great number of cases of early deficiency, not sufficiently advanced for their precise nature to be determined. Nor do we expect ever to know for certain what was the specific deficiency with which we were dealing, for the right treatment of deficiency states is a blunderbuss method which supplies many substances, anyone of which may be that which was lacking. Therefore we do not know what proportion of the deficiency children which we see in the infant department would develop rickets if they were neglected.

In the coal-fields of the West Riding of Yorkshire, in the first decade of the century, rickets, in a most obvious form, was highly prevalent amongst school children. Its distribution was characteristic and bore a very intimate relationship to conditions of the atmosphere. The most noticeable of these relationships was the tremendous amount of advanced rickets in the districts round Leeds where the industry was iron. In East Ardsley, rickets was so prevalent that when the school 'babies' stood in a row, it was difficult to find a pair of parallel legs. An investigation into the distribution and attributes of rickets was undertaken by the writer when he was working in the district (1908-1914), and a series of registers was kept which gives statistical evidence of the prevalence, the variety and associations of children with rickets. The material of these registers forms the basis of this study.

In order to understand what follows, certain definitions are essential. In these registers no case was included as rickety, in which the diagnosis was open to question, *i.e.*, every child whose name appears on these registers was definitely and for certain suffering from, or from the results of, rickets. Doubtless among the children, some 25,000 in number, who were examined during this period, there were two, three or ten times as many cases in which a suspicion of rickets might have been entertained, but if there was the slightest doubt, they were excluded from the registers.

The normal or ‘ Control ’ child was a child who suffered from no defect that could be discovered (carious teeth alone excepted) and about whom certain information of a completely reliable character was available.

The definition of adenoids was, chronic mouth breathing in which digital exploration proved obstruction to the posterior nares by adenoid growth.

The teeth were examined with the help of a dental probe and mirror where necessary, and the dental formula was recorded in full.

The signs which were accepted as those due to rickets were :

Bending of the tibia.
Lateral curvature of the femur.
Bending of the humerus.
Bending of the forearm.
Enlargement of the epiphyses of the wrist and ankle and the presence of the rickety rosary.

No case was accepted as rickets which did not exhibit one or more of these phenomena in such marked degree that it was unmistakable. Deformities of the chest, deformities of the back and bossing of the head, are not looked upon as signs which are for certain rickety, as they occur in other infantile diseases.

The material was children admitted as ‘ Entrants ’ to the Public Elementary Schools. In this part of the West Riding, at that time, children were generally admitted to school at the age of three to four, though some of them did not enter school until late. The number of cases on the registers is 754. There are three registers which differ slightly in detail, so that in the analyses that follow not all three registers could be used for all purposes. The first register contains 187 names, the second 303, and the third 264. The ages of the children were as follows :—

	Boys.	Girls.
Age 3 years	142	101
Age 4 years	126	116
Age 5 years	119	100
	387	317
TOTAL	704	

The remaining 50 cases were either above five years of age or their age was uncertain.

TABLE I.—DISTRIBUTION OF THE SIGNS OF RICKETS.

All Percentages are Given to the Nearest Unit.

Condition.	Aged 3.				4				5				Over 5.			
	Boys		Girls		Boys		Girls		Boys		Girls		Boys		Girls	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Enlarged bone ends	108	76	90	89	75	61	73	63	66	55	58	58	11	44	7	28
Rosary	38	27	19	19	45	36	27	23	49	41	39	39	6	24	7	28
Curved tibia	127	89	92	92	114	92	105	90	104	87	93	93	24	96	25	100
Curved femur	48	34	39	39	33	26	43	37	52	44	39	39	12	48	14	56
Curved forearm	28	20	24	24	15	12	24	20	30	25	28	28	5	20	9	36
Bossed head	64	45	42	42	64	51	61	53	71	60	42	42	14	56	21	84
Deformed chest	30	21	10	10	32	27	21	18	37	31	26	26	19	76	20	80

Curving of the Humerus was found in 9 cases out of 264 and spinal curvature in 3 out of 264.

TABLE II.—ASSOCIATED SYMPTOMS AND CONDITIONS.

CONDITIONS ASSOCIATED WITH 567 CASES OF RICKETS.

Condition.	Numbers.	Percentage (1)	Standard (1) Percentage.
Heart murmurs (2)	38	7	4
Moist Sounds, Lungs	120	21	7
Palpable cervical glands	356	62	15
Mouth Breathing	26	5	5
Enlarged Tonsils	54	9	10
Adenoids (3)	4	1	2
Abnormal Palate	14	3	3
Squint	29	5	4
Pendulous Belly	17	3	....
Subnormal Mentality	45	8	....
Defective Speech (4)	19	3	3
Obesity	47	8	....
Dwarfing	28	5	....

1 to nearest unit. 2. Only one case of organic (congenital) disease.
3. According to the definition given in the text. 4. Mostly idioglossia.
Dwarfing, Obesity and Pendulous Belly may be considered as signs of Rickets.
With the exception of Catarrh of the lungs and enlarged glands, there is no significant difference between rickety and standard (not normal) children in regard to the above phenomena.

TABLE III.

THE SIZE OF THE FAMILY, POSITION OF THE RICKETY CASE AND THE NUMBER OF MONTHS DURING WHICH IT WAS BREAST FED COMPARED WITH NORMAL CONTROLS.

A

Size of Family.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	17
No. of cases of Rickets	7	12	14	9	13	6	9	5	4	4	2	1	....	1	2	1
No. of cases of Controls	5	15	19	13	11	11	7	2	2	1	2	1	1	....	....	....

B

Position in Family.	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	17th
Cases of Rickets	17	18	7	7	12	6	7	3	4	3	2	1	1	1	....	1
Cases of Controls	20	19	15	11	9	4	6	2	1	....	2	1	....	....	....	....

C

No. of months breast fed.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18	24
Cases of Rickets	28	0	5	1	1	2	1	2	2	0	1	2	16	2	5	8	2	5	3
Cases of Controls	14	2	4	4	1	2	5	1	2	7	1	3	15	3	7	4	1	6	4

Only cases in which the information is reliable are included in this Table, but any deductions drawn from it are liable to the following errors :—

1. The size of the family is, of course, the size of the family at the time the case was seen. It does not give definite information of the final size of the family.

2. The position of the case in the family also opens the road to fallacy. Since the case will be three to five years of age it must be one of the junior members of the family. A child of three cannot be the eldest of fifteen !

3. The number of months breast fed, gives no information as to whether any feeding other than breast was given during the period.

TABLE IV. NUMBER OF CARIOUS TEETH OF THE CASES AND CONTROLS.

CARIOUS TEETH.

No. of Carious Teeth.	Age 3.				Age 4.				Age 5.			
	Normal		Rickety		Normal		Rickety		Normal		Rickety	
	B	G	B	G	B	G	B	G	B	G	B	G
0	8	11	60	53	7	5	28	24	5	3	21	19
1	4	4	13	8	3	7	14	12	4	1	5	5
2	3	2	14	12	5	3	13	19	5	6	7	11
3	1	3	3	3	4	5	7	5	1	4	9	6
4	6	4	15	8	6	5	14	11	5	6	6	6
5	1	3	5	4	4	4	5	5	4	6	8	9
6	1	5	7	3	4	7	11	7	4	3	7	3
7	....	1	4	....	4	9	4	6	5	8	7	5
8	2	....	5	4	8	5	5	8	7	7	5	9
9	1	2	1	1	3	2	1	4	3	2	4	2
10	1	2	6	2	1	6	4	2	4	5	9	5
11	1	....	1	....	1	....	5	3	2	7	5	6
12	....	1	5	1	5	3	4	3	2	2	5	2
13	1	....	....	1	2	....	....	4	2	3	3	1
14	....	....	2	....	1	1	2	1	1	3	4	4
15	1	1	....	....	1	....	1	....	3	1	5	1
16	....	....	1	1	1	1	3	....	....	1	3	....
17	....	....	....	....	....	....	1	....	2	1	3	....
18	....	....	....	....	1	1	1	1	1	1	1	2
19	....	....	....	....	....	....	1	....	....	1	....	1
20	....	....	....	....	....	1	2	1	....	2	2	3
Average	4	5	3	2	6	6	5	4	7	8	7	6
Mean	3	3	1	0	6	6	4	3	7	8	6	5
No. of Children	31	39	142	101	61	65	126	116	60	73	119	100
No. of Carious Teeth	122	181	429	213	382	395	613	501	422	584	809	596

In this Table any tooth which is absent is counted as though it were carious. The average is given to the nearest unit.

The teeth of children with severe rickets are less carious, far less carious, than those of ‘ normal ’ controls. This is especially marked in the three-year olds. This would suggest that if there is any connection between carious teeth and rickets, it is in a negative direction, and that the Mellanbys’ experiments are either faulty, or inapplicable to man. But since this experimental work has withstood the severest criticism that can be levied against it, it cannot be faulty. That what is true for rats and puppies is not necessarily true for man, may be possible, but without question, rickets in puppies and rats is the same disease as rickets in man. So, though the experimental work may require some ‘ adjustment ’ before it can be applied in the clinical study of human childhood it is scarcely possible for it to be rejected. Unless it can be shown that interference with dentition is produced, by or is co-ordinated with, rickets, a part of the Mellanbys’ work would have to stand down. In spite of the apparent contradition which Table IV shows, the state of the teeth in rickets does correspond with what might be expected if the experimental work is correct. Though Caries of the *temporary* teeth is uncommon in rickety children of three years old, the advance of caries is more rapid in rickety than in control children.

At six and seven years, the dentition of rickety children is exceeding bad, but the number of six year old children in the present series is too small to be worth quoting. We do however get something very pertinent to the question from the following :

Of 3 year-olds ; 12 had lost one tooth, 3 had lost two and one had lost three.

Of 4 year-olds ; 5 had lost one, 9 had lost two, 3 had lost three, 3 had lost four, one had lost 7, 2 had lost 9 and one had lost 15.

Of 5 year-olds ; 24 had lost one, 17 had lost two, 10 had lost three, 10 had lost four, one had lost five, 5 had lost six, 3 had lost seven, 2 had lost eleven, one had lost 12, one had lost 15 and one had lost 17.

In a series of normal palated mouth breathing children (normals are not available for comparison) :—

51 three year-olds had 4 teeth missing.
186 four year-olds had 10 teeth missing.
280 five year-olds had 68 teeth missing.

Moreover, of 754 rickety children, eight showed obvious hypoplasia of the temporary teeth, of 950 mouth breathers, one only showed this condition. *Obvious* hypoplasia, though common enough in the permanent set is a curiosity in the first dentition.

Now if it be true that the causes of rickets generally come into play at the end of the lactation period, there seems no reason why they should interfere with the first teeth which are almost fully calcified by this time. Any action which the rickety state might have, should therefore be of the nature of decalcification of teeth originally well-formed. Premature absorption of the roots with consequent early shedding would be expected, but not caries until late in the first dentition period, when the milk teeth are becoming obsolete. We therefore find precisely what we should expect to find if Mellanbys' doctrines are true.

It may be stated that in the West Riding of Yorkshire in the first decade of the century, dental treatment for children was a thing unheard of. Possibly a tooth might be extracted for persistant toothache, but this remote possibility was found to operate only for forty teeth in ten thousand children. So that a tooth which is absent had either been knocked out, fallen out, or had never erupted.

Similar material to that here dealt with, will, it can be hoped, never again be available for human study. The reader who may be interested in this work, must keep constantly in mind, the ages of the children, the total lack of treatment and supervision under which they had passed their infancy and the definitions given of adenoids, rickets and ' normals.'

What do we learn from it ? That rickets is a disease of a specific character, ending, if untreated, in characteristic organic changes. The modern definitions of rickets and the signs which are looked for to prove it, appear to the writer to be the definitions and signs of deficiency diseases of various kinds and causes, of which rickets itself is but one. It may be hoped that these who are studying the signs and treatment of early ' rickets ' will never know if the cases they are treating are rickets as we saw the disease in past years, and as it is here defined, and if the characteristic signs are prevented from becoming manifest, there can never be any proof of the correctness of the differential diagnosis.

Many observers recently have found co-relation between rickets and adenoids ; in this series, only four out of five hundred and sixty seven children had adenoids, an exceptionally low percentage. But the discrepancy here is apparent only. If bossing of the head is accepted as the criterion of rickets, then all states of deficiency, or indeed of illnutrition in infancy, must be considered as rickety. If nasal discharge is the criterion of adenoids, then all catarrhal conditions must be called adenoids. The definitions of rickets and adenoids given here may be, and probably will be, questioned, but this will not materially interfere with the argument. It may be added that rickets is rare in Swindon, and was very common in the district round Wakefield, but the prevalence of adenoids in Swindon in 1928 is practically the same as it was in Wakefield in 1908.

It is somewhat surprising that the abnormal palate is not more common in rickety than in standard children, but the causes which interfere with the growth of the face come into play when the milk teeth begin to space, after the age of three, by which time the causes of rickets have generally ceased to operate.

Functional cardiac murmurs are nearly twice as common in rickety as in standard children, but not one of 754 rickety cases had 'rheumatic' heart disease. There is indeed no evidence that child rhemuatism has any connection with rickets, or with any deficiency or nutritional state.

DUNSTAN BREWER,
School Medical Officer.

ELEMENTARY EDUCATION.

Statistical Tables

TABLE I.—RETURN OF MEDICAL INSPECTIONS.

A. ROUTINE MEDICAL INSPECTIONS.

Number of Code Group Inspected.

Entrants	1368
Intermediates	1329
Leavers	1136
TOTAL	3833
Number of other Routine Inspections ..	Nil

B. OTHER INSPECTIONS.

Number of Special Inspections ..	2382
Number of Re-inspections ..	5157
TOTAL	7539

TABLE II.—A.—Return of Defects found by Medical Inspection in the Year ended 31st December, 1928.

	Defect or Disease.	Routine Inspections		Special Inspections.	
		No. of Defects.		No. of Defects.	
	(1)	Requiring treatment. (2)	Requiring to be kept under observation but not requiring treatment. (3)	Requiring treatment. (4)	Requiring to be kept under observation but not requiring treatment (5)
	Malnutrition	22	12	2	....
Skin	Ringworm :—				
	Scalp	6	....	49	....
	Body	11	....	16	....
	Scabies	....	....	6	....
	Impetigo	36	....	187	....
	Other Diseases (non-Tuberculous)	85	2	505	1
Eye	Blepharitis	23	....	32	....
	Conjunctivitis	4	....	27	....
	Keratitis	....	....	2	....
	Corneal Opacities	....	....	3	....
	Defective Vision	292	....	11	....
	Squint	40	1	9	2
	Other Conditions	24	3	88	2
Ear	Defective Hearing	91	8	35	9
	Otitis Media	....	....	45	23
	Other Ear Diseases	128	12	193	14
Nose and Throat	Enlarged Tonsils only	72	93	118	49
	Adenoids only	4	26	19	7
	Enlarged Tonsils and Adenoids	19	35	37	2
	Other Conditions	47	20	109	12
Glands	Enlarged Cervical and Sub-max : (non-Tuberculous)	18	51	141	41
	Enlarged Thyroid	21	4	22	1
Speech	Defective	1	1	....	3
Teeth	Dental Diseases	310	....	11	....
Heart & Circulation	Heart Disease :—				
	Organic	1	13	....	7
	Functional	8	36	....	16
	Anaemia	35	13	26	11
Lungs	Bronchitis	23	7	4	...
	Other Non-Tuberculous Diseases	43	35	40	19
Tuberculosis	Pulmonary :—				
	Definite	....	....	2	....
	Suspected	3	5	5	6
	Non-Pulmonary :—				
	Glands	....	3	3	1
	Spine	....	....	....	....
	Hip	1	1	....	....
	Other Bones and Joints	....	....	....	..
	Other Forms	3	1	....	....

TABLE II. A—(Continued).

DEFECT OR DISEASE. (1)		ROUTINE INSPECTIONS. No. of Defects. Requiring treatment (2)	ROUTINE INSPECTIONS. No. of Defects. Requiring to be kept under observation but not requiring treatment. (3)	SPECIAL INSPECTIONS. No. of Defects. Requiring treatment. (4)	SPECIAL INSPECTIONS. No. of Defects. Requiring to be kept under observation but not requiring treatment. (5)
Nervous System	Epilepsy	5	9	1	2
	Chorea	4	4	5	3
	Other Conditions	21	20	20	33
Deformities.	Rickets	8	4	1	1
	Spinal Curvature	7	15	5	4
	Other Forms	14	12	6	11
Other Defects or Diseases		95	54	506	54

B. Number of INDIVIDUAL CHILDREN found at ROUTINE Medical Inspection to Require Treatment (Excluding Uncleanliness and Dental Diseases).

Group. (1)	Number of Children		Percentage of Children found to require treatment. (4)
	Inspected (2)	Found to require treatment (3)	
CODE GROUPS :			
Entrants	1368	286	20·9
Intermediates	1329	353	26·5
Leavers	1136	305	26·8
Total (Code Groups)	3833	944	24·6
Other Routine Inspections	—	—	—

TABLE III.—Return of all Exceptional Children in the Area.

			Boys	Girls	Total
Blind (including partially blind).	(i) Suitable for training in a School or Class for the totally blind.	Attending Certified Schools or Classes for the Blind	3	3	6
		Attending Public Elementary Schools	....	....	....
		At other Institutions	1	....	1
		At no School or Institution	1	....	1
	(ii) Suitable for training in a School or Class for the partially blind.	Attending Certified Schools or Classes for the Blind	....	....	....
		Attending Public Elementary Schools.	2	1	3
		At other Institutions	....	....	....
		At no School or Institution	1	....	1
Deaf (including deaf and dumb and partially deaf).	(i) Suitable for training in a School or Class for the totally deaf or deaf and dumb.	Attending Certified Schools or Classes for the Deaf.	4	2	6
		Attending Public Elementary Schools.	....	....	....
		At other Institutions	....	....	....
		At no School or Institution	....	....	....
	(ii) Suitable for training in a School or Class for the partially deaf.	Attending Certified Schools or Classes for the Deaf.	....	....	....
		Attending Public Elementary Schools.	3	1	4
		At other Institutions	....	....	....
		At no School or Institution	....	....	....
Mentally Defective.	Feebleminded (cases not notifiable to the Local Control Authority).	Attending Certified Schools for Mentally Defective Children.	4	5	9
		Attending Public Elementary Schools.	22	14	36
		At other Institutions	....	....	....
		At no School or Institution	13	14	27
Epileptics.	Suffering from severe epilepsy	Attending Certified Special Schools for Epileptics	....	....	....
		In Institutions other than Certified Special Schools	1	1	2
		Attending Public Elementary Schools.	....	....	....
		At no School or Institution	1	1	2
	Suffering from epilepsy which is not severe.	Attending Public Elementary Schools.	7	3	10
		At no School or Institution	....	1	1

TABLE III.—(Continued).

			Boys	Girls	Total
Physically Defective.	Infectious pulmonary and glandular tuberculosis.	At Sanatoria or Sanatorium Schools approved by the Ministry of Health or the Board.	....	3	3
		At other Institutions	...	....	....
		At no School or Institution	2	....	2
	Non-infectious but active pulmonary and glandular tuberculosis.	At Sanatoria or Sanatorium Schools approved by the Ministry of Health or the Board.	....	....	...
		At Certified Residential Open Air Schools.	....	....	...
		At Certified Day Open Air Schools.	....	....	....
		At Public Elementary Schools	18	4	22
		At other Institutions	....	....	....
		At no School or Institution	3	2	5
	Delicate children (e.g., pre-or latent tuberculosis, malnutrition, debility, anaemia, etc.)	At Certified Residential Open Air Schools. ...	....	....	....
		At Certified Day Open Air Schools.	....	....	....
		At Public Elementary Schools.	44	50	94
		At other Institutions.	....	....	....
		At no School or Institution	....	1	1
	Active non-pulmonary tuberculosis.	At Sanatoria or Hospital Schools approved by the Ministry of Health or the Board.	....	1	1
		At Public Elementary Schools	7	5	12
		At other Institutions	....	....	....
		At no School or Institution	4	2	6
	Cripple Children (other than those with active tuberculous disease), e.g., children suffering from paralysis &c., and including those with severe heart disease.	At Certified Hospital Schools	....	1	1
		At Cercified Residential Cripple Schools.	....	1	1
		At Certified Day Cripple Schools.	....	....	....
		At Public Elementary Schools	13	19	32
		At other Institutions.	....	....	....
		At no School or Institution	3	8	11

TABLE IV.—Return of Defects Treated during the Year ended 31st December, 1928.

TREATMENT TABLE.

Group I.—Minor Ailments (excluding Uncleanliness, for which see Group V).

Disease or Defect.	No. of Defects treated under Authority's Scheme.			Number of def'cts cured	No. of defects remaining under treatm't	No. of attendances at Clinic	No. of Consultations.
	From previous Year	New Cases	Total				
Contagious Skin Diseases—							
Impetigo	1	177	178	175	3	1434	564
Scabies	....	6	6	6	....	19	19
Other Diseases	....	3	3	3	....	20	19
Non-Contagious Skin Diseases							
Dermatitis	....	1	1	1	....	1	1
Eczema	....	9	9	8	1	69	52
Seborrhoea	....	7	7	7	....	16	16
Alopecia	....	2	2	2	....	4	4
Abscesses	....	12	12	11	1	67	48
Boils	....	11	11	11	....	139	32
Warts	5	43	48	43	5	491	90
Herpes	....	4	4	4	....	16	12
Urticaria	....	5	5	5	....	6	6
Psoriasis	....	1	1	1	....	56	16
Acne	....	5	5	5	....	9	9
Pityriasis rosea	....	1	1	1	....	17	6
Cheiropompholyx	....	1	1	1	....	17	16
Other Diseases	2	59	61	59	2	235	132
Ear, Nose and Throat Diseases							
Glands	....	40	40	39	1	152	106
Rhinitis	....	3	3	3	....	3	3
Tonsillitis	....	11	11	11	....	22	20
Other Diseases	....	56	56	55	1	181	117
Wounds and Injuries—							
Injuries	1	55	56	55	1	310	245
Bites and Stings	....	24	24	24	....	93	54
Burns, Scalds Cuts, &c.	....	74	74	74	....	463	244
Septic Sores	3	283	286	280	6	1549	692
Bruises, and Sprains	1	44	45	45	..	227	169
Others	....	92	92	92	....	432	223
External Eye Diseases—							
Foreign Body	....	8	8	8	....	23	20
Stye	....	21	21	21	....	101	66
Blepharitis	1	29	30	28	2	189	113
Conjunctivitis	2	24	26	26	....	242	171
Iritis	....	1	1	1	....	32	20
Corneal Ulcer	...	2	2	1	1	47	40
Strabismus	...	6	6	6	....	6	6
Keratitis	....	2	2	2	...	35	17
Pink Eye	....	8	8	6	2	121	68
Other Diseases	....	44	44	42	2	97	88

Group I.—Minor Ailments—Continued.

Disease or Defect.	No. of Defects treated under Authority's Scheme: From previous Year	No. of Defects treated under Authority's Scheme: New Cases	No. of Defects treated under Authority's Scheme: Total	Number of def'cts cured	No. of defects remaining under treatm't	No. of attendances at Clinic	No. of Consultations
Infectious Diseases—							
Measles	....	1	1	1	....	1	1
Chicken Pox	....	2	2	2	....	4	4
Mumps	....	49	49	49	....	85	80
Whooping Cough	....	13	13	13	....	28	27
Diphtheria	....	1	1	1	....	1	1
Scarlet Fever	....	7	7	7	....	9	9
General—							
Ill-health, &c.	....	76	76	75	1	197	129
TOTALS	16	1323	1339	1310	29	7266	3775

Total Number of Children Treated 977

Group II. Defective Vision and Squint (excluding Minor Eye Defects treated as Minor Ailments—Group I).

Defect or Disease (1)	Number of Defects dealt with.					
	Under the Authority's Scheme. (2)			Submitted to refraction by private practitioner or at hospital apart from the Authority's Scheme. (3)	Otherwise. (4)	Total (5)
	Old	New	Total			
Errors of Refraction (including Squint)	314	301	615	....	....	615
Other Defects or Diseases of the eyes (excluding those recorded in Group I)	3	23	26	....	....	26
TOTAL	317	324	641	....	....	641

Total number of children for whom spectacles were prescribed :
(a) Under the Authority's Scheme 390
(b) Otherwise ....

Total number of children who obtained or received spectacles :
(a) Under the Authority's Scheme 346
(b) Otherwise 3

Group III.—Treatment of Defects of Nose and Throat.

NUMBER OF DEFECTS.				
Received Operative Treatment.			Received other Forms of Treatment.	Total number Treated
Under the Authority's Scheme, in Clinic or Hospital. (1)	By Private Practitioner or Hospital, apart from the Authority's Scheme. (2)	Total. (3)	(4)	(5)
131	1	132	113	245

GROUP IV.—DENTAL DEFECTS.

(1) Number of Children who were :—

(a) Inspectedby the Dentist :

	Age		
Routine Age Groups	3	59	Total 5388
	4	297	
	5	605	
	6	729	
	7	791	
	8	926	
	9	496	
	10	367	
	11	314	
	12	312	
	13	312	
	14	170	
	15	10	
Specials			109
GRAND TOTAL			5497

(b)	Found to require treatment	4088
(c)	Actually treated	4310
(d)	Re-treated during the year as the result of periodical examination	1707

(2)	Half-days devoted to	Inspection	52	Total 457
		Treatment	405	
(3)	Attendances made by children for treatment			4870
(4)	Fillings	Permanent teeth	873	Total 991
		Temporary teeth	118	
(5)	Extractions	Permanent teeth	244	Total 3346
		Temporary teeth	3102	
(6)	Administrations of general anaesthetics for extractions			—
(7)	Other operations	Permanent teeth	368	Total 7965
		Temporary teeth	7597	

GROUP V.—UNCLEANLINESS AND VERMINOUS CONDITIONS.

(i)	Average number of visits per school made during the year by the School Nurses	9
(ii)	Total number of examinations of children in the Schools by School Nurses	26869
(iii)	Number of individual children found unclean (mainly Nits in Hair)	1767
(iv)	Number of children cleansed under arrangements made by the Local Education Authority	916
(v)	Number of cases in which legal proceedings were taken—	
	(a) Under the Education Act, 1921	Nil
	(b) Under School Attendance Bye-laws	Nil

TABLE V(a).—Treatment of Defects of Nose, Throat, and Ear at Special Clinic.

Number of cases referred for treatment.	Number of Consultations	Number of attendanc's for treatment	DEFECTS.										
			Tonsils considerably enlarged	Tonsils enlarged	Tonsils and Adenoids	Adenoids	Tonsillitis.	Inflam'd Turbinates.	Cervical and other Glands	Nasal Spurs and Deflections	Nasal Inflamation	Nasal Polipi	Discharging Ears
397	926	1085	63	77	35	25	10	8	84	12	11	1	80

DEFECTS (CONTINUED).									No. for whom operation for Tonsils and Adenoids was advised	No. who received operative treatment for Tonsils and Adenoids	No. of other operations performed	No. of cases cured	No. of cases remaining under treatment or kept under observation	No. of cases for whom no Report is available
Myringitis, Diseases and Perforation of Membranes	Drums destroyed	Mastoid	Thickened, Scarred and Opaque Membranes	Indrawn Membranes	Deafness (Slight)	Deafness (Severe)	Wax in Ears	Other conditions						
26	4	2	25	8	38	2	46	74	131	128	3	303	80	14

TABLE V (b).—ELECTRICAL IONISATION.

Number of cases referred for treatment	Number of consultations.	Number of attendances for treatment	DEFECT.	Number of cases cured.	Number of cases still under treatment or observation.	Number of cases for which no report is available
			Discharging ears			
3	5	5	3	3	....	....

TABLE VI.—Treatment of Ringworm.

Number of cases			Number of Consultations with Doctor	Number of Attendances made by Children at Clinic	Number of Bacteriological Examinations.	Number of cases cured.	Number of cases still under treatment		Number of cases for which no report is available.
Old	New	Total					Attending School	Not attending School	
54	65	119	581	1585	271	71	45	1	2

TABLE VII.—Electrical Treatment.

Number of Cases.					Number of Attendances for Treatment.	Disease or Defect.			
Boys		Girls		Total		Infantile Paralysis	Functional Paralysis.	Naevus	
Old	New	Old	New						
....	....	9	4	13	144	2	2	9	

TABLE VIII.—Summary of School Accidents which occurred during the Year 1928.

(Elementary School Children).

Number of Cases			Total Number of Attendances made by children at Clinic.	Number of cases where treatment was completed at Clinic.	Number of X-Ray Exposures.	Number of cases referred to Hospital or Private Practitioner for further treatment.	Number of cases resulting in permanent disability.
Serious	Minor.	Total.					
1	83	84	340	83	14	1	1

NOTE.—Cases of simple fracture not resulting in permanent disability and cuts requiring stitching, however extensive, so long as no permanent injury but a good scar resulted, are included as minor injuries.

TABLE IX (a).—SHOWING NUMBER OF CHILDREN DISCOVERED AT ROUTINE INSPECTION WITH ENLARGEMENT OF THE THYROID GLAND.

YEAR 1928.

Group examined.	Number of Children examined.			Number of Children found with enlargement of the Thyroid Gland.		
	Boys	Girls	Total	Boys	Girls	Total
Entrants	693	675	1368	—	4	4
Intermediates	713	616	1329	4	5	9
Leavers	577	559	1136	9	19	28
TOTAL	1983	1850	3833	13	28	41

TABLE IX (b).—TREATMENT OF ENLARGED THYROID AT SPECIAL CLINIC.

Number of Cases			Number of attendances for treatment.	Number of Consultations.	Number of cases cured	Number of cases still under observation and treatment
Old	New	Total				
20	19	39	265	205	10	29

TABLE X.—BACTERIOLOGICAL AND OTHER EXAMINATIONS CARRIED OUT DURING THE

YEAR 1928.

Number of Bacteriological examinations	314
Number of Blood examinations—Histological	56
Urine—Number of Chemical examinations	23
Number of Microscopic examinations	19
Number of X-Ray examinations.	92

TABLE XI.—PARTICULARS OF CASES OF RINGWORM TREATED BY THALLIUM ACETATE.

Case	Age.	Weight	Dose	Epilation		Duration of Treatment.	Remarks.
				Commenced	Completed		
1	4 yrs. 2 mths.	16 kilos.	130 m.g.	12th Day	20th Day	Cured completely, 3 months.	Mild pains in bones of legs 12th day—passed off.
2	6 ,, 11 ,,	19.5 ,,	156 ,,	12th Day	Believed 19th Day.	Cured completely, 9 months, but much scurf persists.	Slight pains in legs on 10th and 11th day—passed off. Small patch of diseased hair discovered at the end of 6 weeks. Local treatment applied. Repeated at end of 3 months.
3	6 ,, 8 ,,	21 ,,	170 ,,	17th Day (Freely)	26th Day	Cured 5 months.	—
4	7 ,, 9 ,,	22.5 ,,	180 ,,	16th Day	24th Day	Cured 4 months.	—
5	4 ,, 10 ,,	17.9 ,,	140 ,,	12th Day	18th Day	Cured 5 months.	—
6	6 ,, 11 ,,	18.37 ,,	147 ,,	13th Day	24th Day	Cured 3 months	New hairs growing 5 weeks.
7	8 ,, 2 ,,	20.53 ,,	164 ,,	11th Day	25th Day	Treatment being continued.	Pains in toes and legs 14th to 20th day.

HIGHER EDUCATION.

Statistical Tables

HIGHER EDUCATION.

TABLE I.—NUMBER OF CHILDREN ATTENDING THE SWINDON SECONDARY SCHOOLS INSPECTED 1st JANUARY, 1928 TO 31st DECEMBER, 1928.

A.—ROUTINE MEDICAL INSPECTIONS.

	AGE GROUPS.							Total
	11	12	13	14	15	16	17	
Boys	12	61	28	....	....	1	1	103
Girls	13	34	17	1	1	....	....	66
Totals	25	95	45	1	1	1	1	169

B.—OTHER INSPECTIONS.

Number of Special Inspections	162
Number of Re-inspections.	403
	565

TABLE II.—Return of Defects found in the Course of Medical Inspection in 1928.

DEFECT OR DISEASE. (1)	ROUTINE INSPECTIONS. No. of Defects. Requiring Treatment. (2)		SPECIAL INSPECTIONS. No. of Defects Requiring Treatment. (4)	
		Requiring to be kept under observation but not requiring treatment. (3)		Requiring to be kept under observation but not requiring treatment. (5)
Nutrition—Poor	....	....	1	....
Skin—				
Impetigo	....	....	3	....
Non-tuberculous Diseases	1	....	14	....
Eyes—				
Blepharitis	1	....	....	....
Conjunctivitis	1	....	....	....
Defective Vision	20	....	....	....
Squint	1	....	....	....
Other Disease or Defect	....	....	1	....
Ear—				
Otorrhoea	3	....	2	....
Defective Hearing	4	....	1	....
Other Conditions	....	....	1	1
Nose and Throat—				
Enlarged Tonsils	7	....	2	....
Enlarged Tonsils and Adenoids....	....	....	....	....
Adenoids	1	....	2	....
Other Conditions	2	....	2	1
Glands—				
Enlarged Thyroid	4	....	....	....
Enlarged Cervical and Sub-max.	3	....	3	2
Heart—				
Organic	....	....	....	1
Functional	1	2	....	7
Anaemia	3	....	....	....
Speech				
Defective	....	....	....	....
Lungs—				
Rales &c.	3	....	....	1
Nervous System—				
Instability and Overstrain	2	2	1	....
Other conditions	2	1	2	....
Deformities—				
Spinal Curvature	7	....	4	1
Flat feet	10	....	3	....
Other Forms	7	....	1	....
Other Diseases or Defects	6	4	61	3

TABLE III.—CONDITION OF THE TEETH OF SCHOLARS DENTALLY INSPECTED AT THE SECONDARY SCHOOLS DURING THE YEAR 1928.

THE COLLEGE SECONDARY SCHOOL.

BOYS.

Year of Birth.	Number of carious teeth					Number free from caries.	Total number examined.
	1	2	3	4	10		
1909	....	1	....	....	....	1	2
1910	....	1	....	....	....	4	5
1911	2	....	1	....	....	6	9
1912	9	3	....	1	....	9	22
1913	10	7	....	....	1	19	37
1914	11	4	4	1	....	14	34
1915	9	3	3	2	....	12	29
1916	9	4	....	5	....	13	31
1917	....	1	1	2	....	4	8
1918	....	....	....	....	....	1	1
TOTALS	50	24	9	11	1	83	178

GIRLS.

Year of Birth.	Number of carious teeth						Number free from caries.	Total number examined.
	1	2	3	4	5	6		
1910	....	1	....	....	....	....	3	4
1911	....	....	1	....	....	....	3	4
1912	2	2	2	....	....	....	5	11
1913	4	5	....	....	....	....	7	16
1914	3	3	....	....	....	1	6	13
1915	3	4	3	....	....	1	13	24
1916	4	5	1	....	1	....	6	17
1917	1	2	....	1	....	....	1	5
TOTALS	17	22	7	1	1	2	44	94

EUCLID STREET SECONDARY SCHOOL.

BOYS.

Year of Birth	Number of carious teeth.								Number free from caries.	Total Number examined.
	1	2	3	4	5	6	7	8		
1911	....	2	....	....	....	....	....	....	1	3
1912	3	3	1	....	1	....	....	....	6	14
1913	11	5	1	....	....	....	....	....	8	25
1914	11	2	3	1	....	....	....	....	19	36
1915	9	5	3	1	....	....	....	1	11	30
1916	4	4	4	2	....	....	....	....	9	23
1917	....	2	1	....	....	....	1	....	5	9
TOTALS	38	23	13	4	1	....	1	1	59	140

EUCLID STREET SECONDARY SCHOOL.

GIRLS.

Year of Birth.	Number of carious teeth.						No. free from caries.	Total number examined
	1	2	3	4	5	9		
1910	....	....	....	1	....	....	....	1
1911	1	....	....	....	....	1	1	3
1912	1	1	2	....	....	....	2	6
1913	8	2	4	....	....	....	5	19
1914	5	2	....	....	....	....	9	16
1915	4	2	1	1	....	....	8	16
1916	7	5	1	....	1	....	9	23
1917	5	....	....	....	....	....	2	7
TOTALS	31	12	8	2	1	1	36	91

THE COMMONWEAL SECONDARY SCHOOL

BOYS

Year of Birth	Number of carious teeth.						No. free from caries.	Total number examined
	1	2	3	4	6	7		
1910	1	1	....	....	....	....	1	3
1911	1	2	....	....	....	....	2	5
1912	6	2	3	1	....	....	6	18
1913	9	6	3	1	....	....	17	36
1914	12	8	2	3	....	....	11	36
1915	5	4	1	2	1	....	14	27
1916	17	4	....	2	....	1	17	41
1917	....	2	....	2	....	....	....	4
TOTALS	51	29	9	11	1	1	68	170

GIRLS

Year of Birth.	Number of carious teeth.					Number free from caries.	Total number examined
	1	2	3	4	8		
1910	....	....	....	....	....	2	2
1911	....	1	....	....	....	6	7
1912	6	3	1	....	....	6	16
1913	5	2	2	3	....	12	24
1914	5	3	1	....	....	8	17
1915	4	3	....	1	....	8	16
1916	8	8	1	....	1	13	31
1917	3	2	....	....	....	4	9
TOTALS	31	22	5	4	1	59	122

TABLE III (Continued).—SUMMARY OF RESULTS OF DENTAL INSPECTION AT THE SECONDARY SCHOOLS YEAR 1928.

Secondary School	ENTRANTS.		RE-INSPECTIONS		Total number Inspected.	Total number referred for treatment	Number free from caries.
	Number Inspected	Number referred for treatment	Number Inspected	Number referred for treatment			
The College	92	53	180	92	272	145	127
Euclid Street	61	34	170	102	231	136	95
The Commonweal	48	30	244	135	292	165	127
TOTAL	201	117	594	329	795	446	349

Percentage of Entrants requiring treatment	58.2
Percentage of Children Re-inspected requiring treatment.	55.3
Percentage of total number of children inspected requiring treatment.	56

TABLE III.—(Continued).

DENTAL INSPECTION AND TREATMENT.

(1) Number of children who were :—

(a) Inspected by the Dentist :

	Aged			
Age Groups	10	1	Total	795
	11	42		
	12	166		
	13	142		
	14	152		
	15	157		
	16	87		
	17	31		
	18	15		
	19	2		

Specials	—
GRAND TOTAL	795
(b) Found to require treatment	446
(c) Actually treated	336
(d) Re-treated during the year as the result of periodical examination	122
(2) **Half days devoted to :** Inspection 11, Treatment 89 — Total	100
(3) Attendances made by children for treatment	473
(4) Fillings: Permanent teeth 317, Temporary teeth — — TOTAL	317
(5) Extractions: Permanent teeth 73, Temporary teeth 55 — TOTAL	128
(6) Administrations of general anaesthetics	—
(7) Other operations: Permanent teeth 143, Temporary teeth 17 — TOTAL	160

TABLE IV.

Defective Vision and Squint (excluding Minor Eye Defects treated as Minor Ailments).

Defect or Disease.	Number of Defects dealt with.					
	Under the Authority's Scheme			Submitted to refraction by private practitioner or at hospital apart from the Authority's Scheme.	Otherwise.	Total
(1)	Old	New (2)	Total	(3)	(4)	(5)
Errors of Refraction (including Squint.)	76	53	129	....	5	134
Other Defects or Disease of the eyes (excluding those recorded in Group 1).	2	2	4	....	....	4
TOTAL	78	55	133	....	5	138

Total number of children for whom spectacles were prescribed :

(a) Under the Authority's Scheme	84
(b) Otherwise	5

Total number of children who obtained or received spectacles :

(a) Under the Authority's Scheme	76
(b) Otherwise	7

TABLE V.—Summary of Accidents which occurred to Secondary School Children during the year 1928.

NUMBER OF CASES.			Total Number of attendances made by children at Clinic.	Number of Cases where treatment was completed at Clinic.	Number of X-Ray Exposures.	Number of Cases referred to Hospital or Private Practitioner for further treatment.	Number of Cases resulting in permanent disability.
Serious	Minor	Total.					
....	39	39	152	34	24	5	....

NOTE.—Cases of simple fracture not resulting in permanent disability and cuts requiring stitching, however extensive, so long as no permanent injury but a good scar resulted, are included as minor injuries.

TABLE VI TREATMENT OF ENLARGED THYROID AT SPECIAL CLINIC.

Number of Cases			Number of attendances for treatment.	Number of Consultations.	Number of cases cured	Number of cases still under observation and treatment.
Old	New	Total				
6	4	10	100	68	4	6

TABLE VII.—Treatment of Defects discovered in Secondary School Children.—Year 1928.

Disease or Defect.	NUMBER OF DEFECTS.					
	Referred for treatment.	Treated.			Not Treated.	For whom no Report was available.
		Under Local Education Authority's Scheme.	Otherwise	Total		
Nutrition	1	....	1	1	....	....
Skin	18	17	1	18	....	....
Vision and Squint	21	12	5	17	4	....
Eye Disease	3	3	....	3	....	....
Ear Disease	6	4	2	6	....	....
Defective Hearing	5	2	3	5	....	....
Nose and Throat	16	9	7	16	....	....
Enlarged Thyroid	4	4	....	4	....	....
Enlarged Glands (Non-Tuberculous)	6	3	....	3	2	1
Heart and Circulation	4	....	4	4	....	....
Lungs Defective	3	1	2	3	....	....
Nervous System	7	3	4	7	....	....
Deformities	32	28	4	32	....	....
General	67	61	3	64	3	....

Total number of X-Ray examinations made during the year 24

Borough of Swindon

Annual Report

OF THE

Medical Officer of Health

FOR THE YEAR 1928,

AND THE

Isolation Hospital Annual Report

From the 1st April, 1928, to the 31st March, 1929,

BY

DUNSTAN BREWER, M.R.C.S., L.R.C.P., D.P.H.

Report of the Chief Sanitary Inspector

FOR THE YEAR 1928.

John Drew (Printers) Ltd., 51, Bridge Street, Swindon.

BOROUGH OF SWINDON.

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Vice-Chairman—Councillor G. W. BRUNGER.

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Town Clerk.—W. H. Bentley, Esq.

BOROUGH OF SWINDON.

PUBLIC HEALTH DEPARTMENT.

STAFF.

Medical Officer of Health, School Medical Officer and Medical Superintendent of the Isolation Hospital.

DUNSTAN BREWER, M.R.C.S., L.R.C.P., D.P.H.

Deputy Medical Officer of Health.
F. W. OLDERSHAW, M.R.C.S., L.R.C.P., D.P.H.

Assistant Medical Officer of Health.
VIOLET KING, M.B., Ch.B.

Chief Sanitary Inspector.
F. H. BEAVIS.
Certificate of the Royal Sanitary Institute.
Certificate of the Royal Sanitary Institute for Meat Inspection.
Certificate in Building Construction.

Assistant Sanitary Inspectors.
H. A. BANWELL
Certificate of the Royal Sanitary Institute.
Certificate of the Royal Sanitary Institute for Meat Inspection.
Certificate of the Worshipful Company of Plumbers and Final Certificate City and Guilds.
Certificate in Hygiene.

D. DAVIES.
Certificate of the Royal Sanitary Institute.
Certificates of the Royal Sanitary Institute and Liverpool University for Meat Inspection.
Certificates in Sanitary Science and Building Construction.

J. BOWERS.
Certificate of the Royal Sanitary Institute.
Certificate of the Royal Sanitary Institute for Meat Inspection.

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Assistant Clerks—H. J. PUGH
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Assistant Clerk and Clinical Assistant—Miss M. E. BUTLER.

Matron of the Isolation Hospital.
Miss J. McKINNON SMITH, A.R.R.C.

Matron of the Maternity Hospital and Training Centre.
Miss F. M. GARRETT.

Health Visitors.
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3 years General training.
State Registered Nurse.
Certificate of the Central Midwives Board.

Miss M. JOHNS.
3 years Certificate of Hospital training.
Certificate of the Central Midwives Board.
Queen's Nurse.

Disinfector—G. GREENAWAY.

Voluntary Helpers at Maternity Centres—
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Mrs. WESTON
Mrs. OSMOND.
Mrs. HUMPHRIES.
Mrs. HULANCE.

To the Chairman and Members of the Health etc., Committee.

LADIES AND GENTLEMEN,

Since it was known that the Borough would be extended in 1928, that the functions of the Swindon and District Hospital Board would be transferred to the Town Council and that the Training Home for Midwives would probably be taken over also, 1928 was not expected to be an easy year for the Public Health Department. But at the beginning of the year, and indeed right through the Winter, Spring and early Summer, there was no indication that the latter part of the year was to test our powers, versatility and endurance to an extent which had not been called for in previous years. Writing now, at the end of March, when we have apparently got over the worst and things wear a less sinister countenance, we can estimate the extent of the menaces to the health of the citizens of Swindon and review the methods which were adopted to deal with them.

So far the results are satisfactory in that the general death rate, though not the lowest on record, was not far above it and the infantile mortality touched a low record, which seemed almost unattainable in an industrial town. Nor was the mortality of children, of mothers, or of young adults in any way above, or even up to, the average of recent years. But the high prevalence of infection ; the serious fatality of adolescent tuberculosis, of whooping cough and especially of measles ; the rise in appendicitis (there were over 200 operations for appendicitis, a quarter of the number of births) ; the increasing prevalence of diabetes, and the steady increase in gastric diseases, make us realize that the prevention of disease has a long way to go ere the standard of complete efficiency is reached.

What follows in this report will show that the work done by the Public Health Department was, in most directions, greater than had ever been done before, and had it not been that the pressure of urgent matters enforced curtailment of those which were less urgent, all departments would have shown a substantial increase over the records of any other years.

On the 1st October the Borough boundaries were extended to take in Rodbourne Cheney and Hurst, upon the latter of which is built the Corporation's housing estate. The extension of the Borough went some way, but only part of the way, to make the municipal borough correspond with the population unit. There has always been great difficulty in the public health administration of Swindon, due to the lack of coincidence of the local government unit with the population unit. The inclusion of the Hurst Estate relieves the chief difficulty, but we are still troubled, though in a minor degree, by the exclusion of Stratton. The increased size of the Borough increased materially the work of the Sanitary Department, but, on the whole, rather lessened the difficulties of preventive medicine, for the inhabitants of the added area had always been attended from the Swindon Clinics and, as regards infectious disease, were treated in the Isolation Hospital.

With the extension of the Borough, the old Swindon and District Hospital Board was abolished and its functions assumed by the Town Council. So far as health administration is concerned, this made not the smallest difference.

On December 1st the Borough took over the Training School and Extern Midwifery Department which had formerly been run by the Wilts Nursing Association. This produced a great amount of clerical and administrative work, though it did not produce any material difference in the work of guarding the health of the citizens.

Progress was made towards the building of the new Maternity Hospital, but owing to numerous difficulties and the uncertainties of the position introduced by the Government's Local Government Bill, future progress is in a very doubtful position.

The birth rate of Swindon recovered from the great drop which occurred in 1927 and returned to the rate that has been ruling since the disturbance caused by the War. There is much doubt with regard to the population of the Borough. The Registrar General has given a provisional figure of 61,110, but estimations based upon various data place the figure considerably higher. All rates that are based upon the population figure will be subject to error, so that we should not be justified in being more precise than to say that the birth rate recovered to its normal level and that the death rate was low. Population figures do not affect the infantile mortality rate.

The climatic conditions of 1928 were unusually favourable, though unfortunately for the inhabitants of Swindon, the week in the year which matters most to them was the least favourable.

The state of employment in the town was good and evidence of distress of the extent which has a bearing upon health, was quite trivial.

STAFF OF THE PUBLIC HEALTH DEPARTMENT.

Dr. G. W. Fleming left the service of the Corporation on the 29th February, 1928, and Dr. F. W. Oldershaw, appointed in his place as Deputy Medical Officer of Health, commenced duty on the 1st May 1928.

In September, the Council appointed Nurse H. E. Hartley as third health visitor. As it was impossible to obtain a fully qualified health visitor, the Council decided to appoint Nurse Hartley on her general qualifications and to send her to Bristol for the necessary training to obtain the Health Visitor's Certificate ; so that, actually, Nurse Hartley's services were not available during the year. Otherwise there was no change in the staff of the Public Health Department.

GENERAL PUBLIC HEALTH AND SANITATION OF THE TOWN.

This being an ordinary report, it is only necessary to mention matters which were either new during the year, or which underwent substantial alteration.

The four public conveniences for both sexes, which were completed in 1928, are a credit to the town and admitted of the closing of a proportion of the nameless horrors which used to disgrace it. There are still a number of so-called conveniences which should be abolished.

The development of the Waterworks and Sewage Works carried through in 1928 were parts of comprehensive improvements, which need not detain us here, as they will be amply dealt with in the general report of 1930.

During 1928 there was no trouble with water supply, nor were any complaints received in regard to drainage or flooding.

INSPECTION AND CONTROL OF FOOD STUFFS.

The Sale of Food and Drugs Acts are administered by the County Authority, but the more important part of the control of foods falls upon the Borough as the local authority for carrying out the Public Health Acts. The most important articles with which we have to deal are meat and milk. These foods, being of animal origin, can be potent spreaders of disease and a most rigid and constant scrutiny of them is necessary to ensure safety.

The inspection of meat continues to be one of the most onerous duties of the Sanitary Department. The amount of meat seized or surrendered as unfit for food was about the same as last year, namely about 40 tons. There was one important meat prosecution, the details of which are given in the Sanitary Inspector's report.

The bacteriological examination of milk had to be suspended in the latter part of the year, owing to the pressure of more urgent matters. 13 bacteriological examinations were made, the results of which are given in the appendix. There is a steady increase in the amount of milk sold in bottles and also in the amount of graded milk used by the citizens, but the extent to which milk is used as a food cannot be considered as satisfactory. One might reasonably expect the consumption of this most important commodity, which can be produced locally in abundance, to be trebled with advantage to everybody.

The growing tendency to live upon tinned, potted, bottled and imported luxuries which, though attractive and convenient, are of comparatively low food value and, therefore, relatively very expensive, keeps poor a great section of the population which, if it would only learn how to feed, could live in reasonably comfortable circumstances. Possibly, in course of time, we shall all receive such instruction in living as will enable us to live in health and comfort upon what we can earn, but at present the time that can be given to education is so filled with matters which may, or may not, have some influence on the human mind, that few people have any time to teach or to learn anything that is useful. The introduction of the periodical "Better Health" is an attempt to educate the population in those matters which are really important in guarding their health and energy. This periodical has met with great success and the demand for it is greater than we can supply, but it is very difficult to teach adults whose habits are formed and cannot be changed without great effort and more self-denial than the average person is prepared to exercise.

HOUSING.

220 new houses were erected in the Borough during the year, of which 10 were erected by the Corporation and 210 by private enterprise.

It is impossible this year to give any useful figures regarding the housing situation. The number of inhabited houses in the Borough is estimated at 15,150 and the population is estimated at 61,110. If these figures are accurate there is one house per four persons. If we look at the matter with the evidence that is available, we must come to the conclusion that far from there being any house *shortage* in Swindon, the available housing room is in excess of the needs of the population. Empty houses are rare and though there is a number of moderately sized houses in the Town with very few inmates, there are very large numbers of houses which have at least their full complement, a not inconsiderable number with more inhabitants than are desirable and a small number which are definitely overcrowded. So far as the overcrowding is concerned, it may be said quite frankly that the position remains identical from year to year, and that the present housing policy will never alter it.

On the whole, the housing of the people in Swindon is far less unsatisfactory than it is in most industrial towns. The vast majority of Swindonians are reasonably comfortably housed and when compared with the conditions that rule in most industrial areas, particularly the North of England and the South of Scotland, the housing of Swindon is palatial. But this is no excuse for there to be overcrowding—and there is definitely some overcrowding, though it is not extensive—in a town where there are only 4 inhabitants per house. If every unsatisfactory house in Swindon were swept away, the population could be housed in the remainder without any overcrowding whatever, presuming that the housing was arranged on a completely communistic basis. It is practically impossible to remedy the overcrowding that we have under present circumstances, for except for the houses erected by the Corporation, there are no lodgings to be obtained by persons with families.

From the 1921 census, the standard number of rooms per person is 1.15 ; probably to-day it is more than 1.3. The following table shows the density per room in houses in which cases of infectious disease occurred during the year under review.

	Pneumonia	Scarlet Fever.	Diphtheria	Tuberculosis.
No. of cases	171	251	31	83
No. of Rooms	927	1436	175	420
No. of Persons	958	1375	161	435
Rooms per Person	.97	1.04	1.09	.97

No comment will be made upon this table this year, but in the report for 1930 the meaning of this table (which has been given every year) will be minutely considered.

HOSPITAL ACCOMMODATION.

In 1928 there was no change in the hospital accommodation of Swindon, but the matter received a great deal of attention.

The decision of Victoria Hospital to go ahead with the new building may well be the beginning of a more satisfactory era, but the whole subject is so complicated that it cannot be told whether the next few years will see a solution of our difficulties, or a collapse of the hospital service.

Maternity and Child Welfare.

ANNUAL STATISTICS RELATING TO THE MATERNITY HOSPITAL—1928.

	Borough	County	TOTAL
(1) Number of cases in the home on 1st January, 1928.	7	2	9
(2) Number of cases admitted during 1928.	182	55	237
(3) Number of cases remaining in the home on 1st January, 1929	7	4	11
(4) Average duration of stay	14 days	13 days	
(5) No. of cases delivered by—			
(a) Midwives	107	28	135
(b) Doctors	60	20	80
No. of cases in which no delivery took place	22	9	31
(6) No. of cases in which medical assistance was sought by the midwife with reasons for requiring assistance :—			
(a) Ante-natal	2	....	2
(b) During labour	11	12	23
(c) After labour	1	5	6
(state separately No. of ruptured perineums which required suture)....	6	13	19
(d) For infant	4	8	12
(7) No. of cases notified as—			
(a) Puerperal Fever, and	(a) 2. Both treated throughout at the Maternity Hospital and recovered.		
(b) Puerperal Pyrexia, (*i.e.*, rise of temperature to 100.4°F. sustained for 24 hours or its recurrence within that period) with result of treatment in each case.	(b) 12. 5 removed to Isolation Hospital and recovered. 7 treated throughout at the Maternity Hospital ; 6 recovered, 1 died *		
(8) No. of cases of pemphigus neonatorum.	Nil.		
(9) No. of cases notified as ophthalmia neonatorum, with result of treatment in each case.	Nil.		
(10) No. of cases of " inflammation of the eyes " however slight	12		

* See paragraph on puerperal pyrexia.

(11) No. of infants not entirely breastfed while in the Institution, with reasons why they were not breastfed.	2. One due to death of mother. One due to mental condition of mother.
(12) No. of maternal deaths with causes.	4. 1st Admitted unconscious from toxaemia and died within 24 hours. 2nd. Death from haemorrhage. Admitted in a moribund condition and died within 24 hours. 3rd. Admitted unconscious from toxaemia and lived 5 days. 4th. Admitted moribund from heart disease and died within 24 hours.
(13) No. of foetal deaths— (a) Stillborn, and .... (b) within 10 days of birth and their causes—and the results of the port mortem examination if obtainable.	(a) 13 Stillbirths :— 2 Macerated. Wassermanns were done in each case and were negative. 3 Toxaemia of mothers. 2 Placenta prævia. 1 Deformity of foetus 1 Accidental haemorrhage of mother. 2 Death of the mother in labour. 1 Breech presentation. 1 No known cause. (b) 5 deaths under 10 days :— 1 Hydrocephalus. Lived one hour. 1 Asphyxia following prolonged forceps delivery. Lived ten hours. 1 Congenital heart disease. Lived 9 days. 1 Profuse haemorrhage from bowels. Lived 3 days. 1 Congenital heart disease. Lived one day.

THE MATERNITY HOSPITAL.

In December, 1928, the Training School for Midwives, with the Extern Midwifery Department, was taken over by the Town Council. Miss Garrett, the late Matron of the Hospital and Training School, resigned and Miss Sillick, appointed in her stead, took up duty on the 1st January, 1929.

The work of the Hospital was slightly greater in 1928 than in the previous year and would have been greater still had we had sufficient accommodation. About 40 women who wished to be delivered in the Maternity Hospital had to make other arrangements for their confinements. There was much difficulty during the year owing to the irregularity of the birth rate and whereas the number of cases in Hospital on occasions sunk to five or six, more often we were quite full and had to refuse admission.

The proportion of emergency cases was higher than usual, and this has some bearing upon the number of maternal deaths which occurred in the institution. It will be noticed that the four women who died were all admitted in a moribund condition, a most unsatisfactory state of affairs and one which calls urgently for suppression.

The number of cases admitted from the county shows a small increase on that for 1927 and is the largest number of county cases ever admitted. The proportion of emergency cases is greater for the county than for the town and their severity is, in general, greater. This is precisely what is to be expected, for amongst townsfolk there is a growing tendency to be delivered in institutions, which has not, so far, spread to those living in rural districts, and difficulties, when they occur, occasion more delay in obtaining appropriate treatment in the county than in the towns.

REPORT ON WORK DONE AT THE ANTE-NATAL CLINIC
1928

(By Dr. Violet King, Assistant Medical Officer of Health).

There has been steady progress during the year.

Of the total number of persons who attended the pre-natal clinic, 39 had been examined before for previous pregnancies.

The number of new cases shows an increase of 9 over last year's figures, while the total attendances have been increased by 329.

Of the four Wassermann tests taken, one was positive.

9 inductions were carried out in connection with contracted pelves, and 3 Caesarian sections. In two of the former, instruments were used during delivery.

The still-births have been reduced to 4, details of which appear in the table. It will be seen that with one exception the mothers were healthy. Ante-partum haemorrhage is always a serious condition, with risks to mother and child, and one of the two cases was further complicated by placenta praevia. In the fourth case, if the mother had attended weekly as requested, possible discrepancy between the size of the foetal head and the pelvic brim would have been detected and an induction might have saved the baby.

The number of neo-natal deaths remains about the same. Five of the mothers appeared to be healthy. All these babies died within fourteen days. Two suffered from deformity ; one had congenital myxoedema and its mother had had Graves' disease, which suggests a connection between the two conditions. The mother of the first premature child had suffered from venereal disease and the infant was one of twelve, so that its chances of survival were lessened. One child suffered from asphyxiation and one from intestinal haemorrhage and both succumbed. The sixth case was a post-mature baby which should have survived if the mother had attended as urged and had been taken into the Maternity Home shortly before, or at term. The last infant was delivered in intact membranes and soon succumbed to pneumonia.

A sphygmomanometer was acquired in the early part of the year and the blood pressure was recorded in 43 cases. Generally it has been taken at the seventh month and again at term, with the idea of finding the variations, if any, at these times ; also, the effect on it of certain conditions, such as albuminuria, or heart disease. At present the numbers are, of course, far too small to yield any results.

There were 20 gynaecological cases during the year. Of these, only three were of any importance. Two of them were referred with a note to their own doctors, and one, after examination by a specialist to whom she was sent, underwent an operation and is now cured.

V. REDMAN KING,
Asst. Medical Officer of Health.

Public Health Department,
61, Eastcott Hill,
Swindon.

STATISTICS RELATING TO THE ANTE-NATAL CLINIC. 1928.

No. of old cases on the books	53
No. of new cases	347
TOTAL	400
Attendances at Doctor's Clinic	846
Attendances at Matron's Clinic	711
TOTAL	1557
Urine examinations	1131
Wassermann tests	4
X-rayed	1
Blood pressure taken	43
No. of County cases	69
No. of private cases	55
No. of district cases	81
No. booked for Maternity Hospital	201
No. sent by own doctor	5
No. of cases of doubtful pregnancy	12
Gynaecological cases	20
Conditions found at Clinic :—	
Albuminuria	33
Contracted Pelvis	28
Enlargement of Thyroid Gland	7
Heart Disease	7
Hernia	5
Prolapse	7
Varicose Veins	62
Referred for dental treatment	29
Known Results of Confinements :—	
Normal Deliveries	225
Of these :—	
Twins	4
Premature	10
Inductions	9
Abnormal Cases :—	
Instrumental	40
Caesarian Section	3
Breech Presentation	11
Eclampsia	1
Still-births	4
Miscarriages	2

Foetal Abnormalities: —

Deformed hip joints	1
Spina Bifida	1
Hydrocephalus	1
Cardiac Deformity	1

The following table gives the details of confinements of women who had attended the Ante-natal Department, but in whom the child failed to survive.

No.	Age	Para.	Visits	Comments.	Details of Confinements.
1	34	2	1	Sent by own doctor with note. Known history of venereal disease and treatment. Much scar tissue in and rigidity of, perineum. First confinement tedious and terminated with instruments. Present albuminuria and oedema. Infant alive at examination. Dead three weeks later.	Confined in Maternity Home. Two weeks premature.
2	31	3	1	Mother healthy. Former confinements normal.	Confined in Maternity Home. Ante-partum haemorrhage and placenta praevia.
3	31	3	1	Mother healthy. Both other babies premature. Baby alive at examination.	Confined at home. Ante-partum haemorrhage.
4	22	1	3	Mother healthy. Slight contraction of pelvic brim. Baby alive at examination. Mother should have attended weekly during last four weeks, but failed to do so.	Confined in Maternity Home. Full-time birth. Instrumental delivery.

NEO-NATAL DEATHS IN RELATION TO ANTE-NATAL WORK.

No.	Age	Para.	Visits.	Mother's History	Infant's History.
1	41	12	2	Known history of venereal disease. Wassermann said to be negative.	Baby born in own home, prematurely. Lived two weeks.
2	29	4	2	Apparently healthy. Had two still-births, both breech presentations. One normal full-time live birth. Wassermann negative. There was marked hydramnios during fourth pregnancy.	Child born in Maternity Home. Premature. Hydrocephalus with ascites. Lived one hour.
3	26	1	2	History of Graves' disease said to have improved during pregnancy. Had had treatment for this. Present general thyroid enlargement, tachycardia and tremor. Some oedema of ankles.	Born in Maternity Home. Congenital myxoedema. Lived eight days.
4	28	3	2	Healthy. Both other confinements normal. Blood pressure 145. Ankles slightly swollen at night.	Born in Maternity Home. Asphyxiated. Died in thirty-six hours.
5	19	1	2	Healthy.	Illegitimate baby. Born in Maternity Home. Died in three days from intestinal haemorrhage.
6	25	1	2	Healthy. Should have attended again, but failed to come.	Born in Maternity Home. Post-mature. Instrumental labour. Lived eleven hours.
7	35	3	4	Had severe varicose veins Both former babies prematurely born after induced labour.	Born in Maternity Home. Malformation of heart. Lived twenty-eight hours.
8	20	2	1	Healthy. First confinement normal. Failed to attend for further examination.	Born in own home. Delivered in membranes. Died from pneumonia in ten days.

PUERPERAL PYREXIA.

There were 26 notifications of puerperal fever and pyrexia during 1928. All were investigated. 14 were notified from the Maternity Hospital, 3 were notified from private nursing homes and 9 occurred in women delivered at their own homes. 5 of the cases from the Maternity Hospital and 2 of those delivered at their own homes were removed to the Isolation Hospital.

Of the 14 delivered in the Maternity Hospital, the 5 removed to the Isolation Hospital were :—

Scarlet Fever.
Thrombosis and Septicaemia.
Septicaemia.
Decomposition of retained products.
Anaemia from haemorrhage.

All recovered.

Of the 9 that were treated throughout at the Maternity Hospital, 3 were cases of albuminuric toxaemia, 2 were femoral thrombosis, 3 were slight septic absorption from local lacerations and 1 was still in hospital at the end of the year. One of the toxaemia cases died.

Of the 9 cases in women delivered at their own homes, the 2 cases removed to the Isolation Hospital were cases of septicaemia ; both recovered. Another case, also of septicaemia, was too ill to move and died at home. The other cases and the 3 which developed in women in private nursing homes were mild sepsis of no great consequence.

The cases removed to the Isolation Hospital will be considered further in the report on that hospital. Notes are available for all cases.

MATERNAL DEATHS.

In Swindon the death of every woman of the child-bearing age is presumed to be connected with the reproductive process until it is proved otherwise. Consequently the number of maternal deaths exceeds that given by the Registrar General and causes an **apparently** high rate of maternal mortality.

8 maternal deaths were investigated :—

1. Toxaemia (Group 3).
2. Influenzal pneumonia. The disease brought on miscarriage. The child was born alive, but developed pnuemonia fifteen hours later and died. The mother died four days later.

3. Accidental haemorrhage.
4. Septicaemia. Puerperal.
5. Toxaemia (Group 4).
6. Toxaemia (Group 4).
7. Gangrenous Appendix.
8. Heart disease.

Cases 6 and 8 were not natives of Swindon. Notes are available for all these cases. Cases 2 and 7 are not counted as maternal deaths in the Registrar's returns.

OPHTHALMIA NEONATORUM.

The number of cases of this disease notified in the Borough during 1928 was 4. 22 cases of discharging eyes in addition to the above, were reported by midwives and 8 cases were seen at the infant clinics, notified neither by doctors nor midwives.

Two non-notified cases were treated privately. The remainder were treated throughout by the Public Health Department.

Treatment at the Child Welfare Centre.

6 notified cases (4 from the Borough and 2 from outside), 14 midwives cases and 8 cases which had not been notified either by a practitioner or by a midwife, were seen at the Child Welfare Centre. 2 of the notified cases were transferred to Gorse Hill V.D. Department ; the remainder (26) were treated throughout at the Maternity and Child Welfare Centre and discharged cured without any injury to the sight.

Treatment at the Maternity Hospital.

12 of the midwives cases were notified from the Maternity Hospital. Of these, 8 were treated throughout at the Hospital and 4 were transferred to the Maternity and Child Welfare Department. All were discharged cured without any injury to the sight.

Treatment at Gorse Hill V.D. Hospital.

2 notified cases transferred from the Maternity and Child Welfare Department were treated as out-patients and 3 cases notified outside the Borough were treated as in-patients. All were discharged cured without any injury to the sight.

The total number of ophthalmia cases dealt with throughout by the Public Health Department was therefore 35, of which 9 had been notified by doctors. In no case did any permanent damage result, but one of the district cases treated as an in-patient at Gorse Hill Hospital developed onyx and gave cause to great anxiety and took a long time to clear.

The bacteriology of these cases is given in the following table :

NOTIFIED CASES.—

Gonococcus	7
Non-gramming diplococcus, not gonococcus	2

NON-NOTIFIED CASES.—

Non-gramming diplococcus	3
Pneumococcus	1
Bacillus Xerosis	2
Diphtheroid	1
Sterile	16
Not examined	3

In Swindon, every case of discharging eyes met with in the practice of a midwife is reported to the Public Health Department and most are treated at the Municipal Clinics. This work on the eye conditions of the new-born has been carried out in Swindon for the past seven years and during that period every infant, except 14, born within the Borough who developed sticky or discharging eyes has come under treatment by the Public Health Department. We are, therefore, in a position to say something about these eye conditions of the newborn. They are divisible into four classes ; (1) Gonococcus ophthalmia, of which there are two varieties, one developing within seventy-two hours of birth, and the other developing about the tenth or eleventh day. These are similar in bacteriology, but differ considerably in their clinical course. (2) Blocking of the canaliculus. A considerable number of children are born with the tear duct obstructed by secretion. This produces discharge from the eye. This discharge is almost invariably sterile. On pressing upon the lacrymal sac, a small pellet can be squeezed out of the punctum. After this is done the discharge clears up in a few days. (3) Severe ophthalmia due to organisms other than the gonococcus. The chief amongst these are the pneumococcus and a non-gramming diplococcus of uncertain type. These cases are clinically indistinguishable from those due to the gonococcus, except that the cornea remains intact. (4) Mild cases associated with various organisms such as Xerosis, diphtheroids, Koch-Weeks, etc. It is doubtful whether these organisms are pathogenic.

OPHTHALMIA NEONATORUM.

Year	No. Notified.	Cases of infantile Ophthalmia due to gonococcus	Where treated.				Result.				Not notified as O. N.
			Home	Gorse Hill	Clinic	Maternity Hospital	Cured	Blind	Injured	Died.	
*1921	7	?	3	....	4	....	7	....	....	....	19
1922	21	?	2	....	19	....	20	....	1	....	16
1923	34	23	5	4	25	....	30	....	2	2	11
1924	15	13	....	3	10	2	15	....	....	....	12
1925	9	4	1	2	5	1	9	....	....	....	11
1926	8	3	....	....	8	....	8	....	....	....	22
1927	11	5	1	3	6	1	11	....	....	....	15
1928	4	4	....	2	2	....	4	....	....	....	30

* These figures are incomplete.

Table showing the number of cases of Ophthalmia Neonatorum notified, the number treated, the results of treatment, and the number of deaths occurring. 1928.

No. of Cases notified 4.	No. of Cases	Vision Unimpaired	Vision impaired	Total blindness	Deaths
Treated at Clinic	2	2	....	....	....
Treated at Gorse Hill Clinic	2	2	....	....	....
Treated at Maternity Hospital	....	....	....	....	....
Treated privately	....	....	....	....	....
TOTALS	4	4	....	....	....

THE BACTERIOLOGY OF OPHTHALMIA NEONATORUM.

During the past few years 136 cases of ophthalmia in the newborn have been examined bacteriologically. Of these, 58 cases were notified by doctors and 78 were reported by midwives, or discovered in other ways. The organisms present in these cases are given in the following table.

Organisms present.	Notified.	Not Notified.	Total
Gonococcus	46	6	52
Non-gramming Diplococcus	2	3	5
Gonococcus & Diphtheroids	1	....	1
Pneumococcus	....	6	6
Streptococcus	....	3	3
Staphylococcus	2	....	2
Micrococcus Catarrhalis	....	1	1
Indefinite Cocci	....	2	2
Cocci and Diphtheroids	....	1	1
Diphtheroids only	1	2	3
Bacillus Xerosis	....	4	4
Bacillus Koch-Weeks	....	1	1
Bacillus ? Pfeiffer	....	1	1
Bacilli various	2	15	17
Sterile	4	33	37
TOTALS	58	78	136

INFANT WELFARE CLINICS.

The infant welfare clinics continue to expand and are now utilized by the whole population. Our system is practically complete for dealing with all children under the school age and our success is shown most readily by the infant mortality table.

The great feature of the Swindon child welfare system is the continuous clinic at Eastcott Hill, where advice concerning babies can be obtained every day and at all times. No public health experiment has proved more successful than this establishment of the continuous clinic. Strictly speaking, the function of the off-hours is not preventive, but curative, medicine. It enables serious disease to be recognized and got under treatment without delay. Scores of infant lives have been saved by this very simple expedient. The mothers of Swindon know that if at any time of the day their children fall sick, they can obtain advice immediately at the Clinic and that the Public Health Office will see the case through, whatever this may entail. It may be said that this provision is not really necessary, because when persons fall acutely ill they will seek medical attention at once. This undoubtedly is so when the persons know that the condition really is acute and dangerous, but unfortunately by the time it is obvious that an acute condition is serious, it has generally become incurable. As an example of the value of this clinic we may mention a condition which we see not infrequently, namely, intussusception. This starts as an acute condition, but not an alarming one. It soon becomes desperate, but by the time it has become desperate it has generally passed the period for successful treatment.

It may be said in truth that of the children that are brought up to the continuous clinic out of hours, more than ninety per cent. are false alarms which could have waited without harm. But the other ten per cent. represent lives which are saved and give the explanation why the mortality of infants in Swindon dropped in nine years from 83 to 36 and why the mortality from the diseases of infancy which are not due to ante-natal causes, excluding measles and whooping cough, has fallen almost to nothing.

TABLE SHOWING THE NUMBER OF VISITS PAID BY THE HEALTH VISITORS TO MOTHERS AND CHILDREN AND TO CASES OF TUBERCULOSIS.

	1922	1923	1924	1925	1926	1927	1928
No. of first visits paid to mothers and children	1142	1010	923	922	975	815	874
No. of revisits	3913	3047	3189	3568	3368	3674	3731
No. of visits paid to expectant mothers	345	214	262	229	166	168	220
No. of visits paid to cases of Deaths and Stillbirths	93	78	78	67	103	87	89
No. of visits to cases of Tuberculosis....	109	123	123	366	114	170	145
No. of visits paid to children aged 1—5 years	2139	2610	3033	3060	2584	3421	4048
	7741	7082	7608	8212	7310	8335	9107

RECORD OF WORK DONE AT THE INFANT WELFARE CENTRES DURING THE YEARS 1921-1928 INCLUSIVE.

	1921	1922	1923	1924	1925	1926	1927	1928
No. of separate Infants who attended the Centre at:—								
Eastcott Hill	1037	1050	1125	1127	1115	1116	1153	1242
Gorse Hill	250	305	272	310	259	305	328	316
Rodbourne	202	206	208	209	236	255	273	260
TOTAL	1489	1561	1605	1646	1610	1676	1754	1818
Number of Attendances—								
Eastcott Hill	4971	5073	5698	5521	5742	6079	6173	6281
Gorse Hill	1216	1520	1319	1474	1399	1736	2473	2185
Rodbourne	951	1461	1306	1211	1577	1556	2057	2115
TOTAL	7138	8054	8323	8206	8718	9371	10703	10581
Number of cases which received medical advice **and treatment**	**761**	**600**	**580**	**625**	**654**	**746**	**787**	942
Total Consultations	—	1526	**1461**	**1672**	**1631**	**2029**	**2111**	2505

SUMMARY OF CONDITIONS SEEN AND TREATED AT THE INFANT WELFARE CLINICS DURING THE YEAR 1928.

	Infants.	Toddlers.	Total.
Disease and Defects due to Ante-Natal Causes—			
Phimosis	155	1	156
Congenital defects of nervous system....	15	11	26
Congenital diseases of the blood	4	—	4
Other congenital deformities & defects	56	7	63
	230	19	249
Specific Infections—			
Congenital syphilis	11	5	16
Gonorrhoea other than O.N.	—	—	—
Ophthalmia neonatorum	29	1	30
Tuberculosis	5	3	8
Diphtheria, scarlet fever, measles, ... whooping cough	33	7	40
Pneumonia	17	3	20
Rheumatism	—	—	—
Nervous system	1	3	4
Various infections	94	37	131
	190	59	249
Deficiency States—			
Ill-feeding	234	19	253
Scurvy	—	—	—
Rickets	20	2	22
Anaphylaxis	9	3	12
Various	4	11	15
	267	35	302
Injuries	15	13	28
Miscellaneous	68	46	114
	770	172	942
No. of Bacteriological examinations	46	4	50
No. of Haematological examinations	11	2	13
No. of X'Rays examinations	9	3	12
No. of Mental Defectives	4	6	10
No. of Physical Defectives.	—	1	1
No. of Blind Children	—	—	—
No. of Deaf Children	1	—	1
No. of Mute Children	—	—	—

TABLE SHOWING THE NUMBER OF INFANTS AND TODDLERS REFERRED TO SPECIAL DEPARTMENTS FOR TREATMENT DURING 1928.

	Infants	Toddlers	Total.
Dental Clinic	11	194	205
Eye Clinic	6	4	10
V.D. Clinic	16	4	20
Orthopaedic Clinic	7	3	10
Throat, Nose and Ear Clinic	3	11	14
Electrical Clinic	6	4	10
Tuberculosis Clinic	3	2	5
TOTAL	52	222	274

THE MILK (MOTHERS AND CHILDREN) ORDER.

	1921	1922	1923	1924	1925	1926	1927	1928
No. of applications granted	60	88	54	61	52	106	77	72
Total quantity of Milk issued (Galls.)	1800	900	750	900	900	1750	1497	1186
TOTAL COST £ (Approx.)	250	100	75	90	90	160	140	100

INFANTILE MORTALITY.

The deaths of all persons under the age of 17 which occur in Swindon, and of all Swindon children who die away from the town, are investigated. Some knowledge of the previous history of these children is in the possession of the Health Office and, in an increasing number, the full life histories are available. Since some children die in the institutions of Swindon who do not belong to the town, and certain other children who have regularly attended the Swindon clinics die elsewhere, these investigations become somewhat complicated. In the review which follows, cognizance is only taken of those deaths which the Registrar General accredits to Swindon.

The number of infants who died in Swindon during 1928 was much the lowest on record, and, as the number of births accredited to the Borough, owing to the extension of its boundaries and the increase in the rate, was considerably higher than in 1927, the infant mortality rate is by far the lowest that has ever been recorded in Swindon. Few industrial towns in the world have ever shown an infant mortality rate as low as that for Swindon for 1928. This is somewhat remarkable, in view of the fact that 1928 was a year when there was much infectious disease. When we split up the infant deaths into various periods, we see that the reduction has occurred entirely in the early period, there being only 14 deaths during the first month, against 21 for last year. The number of stillbirths diminished from 34 to 31. For some years it has been apparent that the only material reduction which could be effected in infantile deaths is that of the early period and that this could only be brought about by ante-natal attention and improvements in midwifery.

The death rate among children older than one year was higher in 1928 than in 1927, and it will be seen from the figures that the increase was due entirely to measles and whooping cough.

STILLBIRTHS.

34 stillbirths occurred in Swindon during 1928 ; of these, 3 did not belong to the borough, so 31 are accredited to Swindon, against 34 for last year. 10 Swindon cases and 3 of the outside cases occurred in the Maternity Hospital, 1 in Victoria Hospital, 1 in a private nursing home and 19 in the mothers' own homes. Of the 31 Swindon cases, 16 were males and 15 females. All were legitimate but one. 13 were first pregnancies, 4 second, 5 third, 1 fourth, 2 fifth, 1 seventh, 2 ninth, 2 tenth and 1 thirteenth.

The causes of stillbirth were, so far as can be ascertained, as follows :—

Foetal Causes :—	
Spina bifida	1
Hydramnois	1
" Deformed."	1
Natal Causes :—	
Abnormal presentation	3
Caesarian section	1
Maternal Causes :—	
Influenza	1
Eclampsia	5
Ante-partum haemorrhage	2
Rheumatic fever	1

In the remaining 15 the cause of stillbirth is uncertain.

Of these 31 mothers, 7 only had received ante-natal attention.

The age of the mothers at the birth of their first child was as follows :—

18	1
20	4
21	2
22	4
23	2
24	5
25	4
27	1
29	1
35	1
38	1
41	1
Unknown	4

Deaths Before the End of the First Day.

6 such cases occurred, against 7 for last year. All were legitimate. 5 were males and 1 female. 3 were first pregnancies and 3 subsequent pregnancies. 1 was a non-viable monstrosity. On 2 of the children there were inquests ; these were reported to have died from enlarged thymus and marasmus respectively. 1 was reported to have died from blue asphyxia and for the other 2 nothing but prematurity is given as the cause of death. Of the six mothers, one only had received ante-natal supervision.

Deaths Between the End of the First Day and the End of the First Week.

3 such deaths occurred, against 10 for last year. 2 were males and 1 female. 1 was a first pregnancy and 2 subsequent pregnancies. 1 was illegitimate. 1 died from severe cardiac malformation ; 1 from haemorrhage from the bowel of uncertain causation and 1 from influenzal pneumonia, the mother dying at the same time from the same disease. None of these mothers had received ante-natal supervision.

Deaths Between the End of the First Week and the End of the First Month.

5 such deaths occurred, against 4 for last year. 4 were males and 1 female. All were legitimate. 2 were first pregnancies and 3 subsequent pregnancies. 2 were breast fed, 1 of which died from broncho-pneumonia and the other from an unknown cause. 3 were artificially fed. 1 of these died from myxoedema, the child of a mother suffering from ex-ophthalmic goitre ; the cause of death of the other 2 is unknown. 2 out of the 5 mothers had received ante-natal supervision.

DEATHS BETWEEN THE END OF THE FIRST MONTH AND THE END OF THE FIRST YEAR.

19 such deaths occurred, against 18 in 1927. 12 were males and 7 females. All were legitimate but one. 10 cases had not attended the clinics and their previous histories were uncertain. 3 of these had been breast fed ; 1 died of whooping cough, 1 died of intussusception and 1 died of inanition, a premature baby. 7 had been artificially fed. 4 of these died of whooping cough ; 2 died from convulsions, one of which was probably due to ill-feeding and the other may have been due to head injury at birth ; 1 died of acute nephritis.

Of the 9 cases who had attended the clinics and whose life histories were known, 5 were breast fed, 1 of these died of congenital syphilis, 1 of tuberculous meningitis, and 3 of whooping cough. 4 had been artificially fed. 2 of these died of whooping cough, 1 of measles and 1 of meningitis following ear disease, probably measles.

DEATHS OF CHILDREN BETWEEN THE FIRST AND SECOND YEAR.

There were 10 such deaths, against 8 for last year, 5 males and 5 females. All were legitimate. 3 had not attended the clinics. These 3 were breast fed. 1 died of measles and the other 2 died of pneumonia, almost for certain measles pneumonia.

Of the 7 cases that had attended the clinics, 4 were breast fed. 2 of these died of measles and 2 died of whooping cough. 3 were artificially fed. 1 of these died of pneumonia, almost for certain measles ; 1, who was an imbecile, died of measles and 1 died from convulsions, probably due to illfeeding.

DEATHS OF CHILDREN BETWEEN THE SECOND AND THE FIFTH YEAR.

There were 10 such deaths, against 5 for last year, 2 males and 8 females. 4 had not attended the clinic. 2 of these were breastfed, 1 of which died of nephritis of uncertain causation and 1 died of pnuemonia, almost for certain measles. 2 were artificially fed, 1 of which died of pneumonia, almost for certain measles, and 1 died from septic peritonitis which was the result of measles.

Of the 6 that had attended the clinic, 3 were breast fed. 1 of these died of measles, 1 of whooping cough and 1 of influenza, (which was probably measles). Of the 3 that were artificially fed, 2 died of measles and 1 of influenza.

Deaths of Children Between the Fifth and the Tenth Year.

There were 7 such deaths, 5 males and 2 females, against 6 for last year. In 3 the history of the children was not known ; they died respectively of rheumatic fever, pneumonic peritonitis and pulmonary tuberculosis. In 4 the history was known. 1 died of tuberculous meningitis ; the history of this child had been uneventful. 1 died from acute tracheal diphtheria ; this child died suddenly in his sleep after the diphtheria had been relieved. It was thought at the time that he might have been a case of status lymphaticus and his previous history suggests this, as evidence of enlargement of the thymus had been found previously and he was under treatment for this when he was attacked with diphtheria. 1 died of encephalitis lethargica ; she had had ophthalmia neonatorum in infancy and eventually a chronic ophthalmia of some months duration. 1 died of post diphtheritic paralysis ; the disease had been missed entirely in the acute stage and he was admitted into Hospital with a rapidly developing bulbar paralysis.

Deaths of Children Between the Tenth and the Seventeenth Year.

There were 6 such deaths, against 7 for last year, 4 males and 2 females. The history of these children was known to us. 1 died from " bronchitis and asthma " ; the complete history of this child from birth is known and the condition was probably emphysema, secondary to whooping cough. 1 died of compression of the brain from old ear disease ; here the history could be traced back to otitis media, secondary to pneumonia. 1 died of meningitis ; this was a case of secondary amentia. 1 died of tuberculous meningitis, secondary to old Pott's disease. 1 died of diabetes and 1 of tuberculous appendicitis.

The total number of child deaths in the Borough was therefore 66, or one more than last year. When we consider the child mortality as a whole, one notices several features which, even when dealing with such limited material as the year fortunately furnished, are truly astounding. The reduction in neo-natal deaths, *i.e.*, in deaths due to pre-natal causes, is considerable. It was expected that this would follow the increase in ante-natal supervision and it is satisfactory to be able to record that it did so. The mortality of infancy and of early childhood has altered very materially from what it was even a few years ago. The special infant diseases are almost eliminated and the mortality of childhood is now composed chiefly of measles and whooping cough and their sequalae. Later in childhood, deaths from tuberculosis begin to assume importance, but it is in the next age, in adolescence, that tuberculosis occupies a prominent position.

The scrutiny into the deaths in childhood up to the age of 17 has now been carried out for eight years and material of some value has accumulated. There can be no question that before many years are passed, a complete revision of our ideas of the diseases of childhood must take place. Apart from diseases due to intra uterine causes and the curiosities, which, though very interesting are of little importance to the community, the killing diseases of children are an expression of the biological functions of symbiosis. The danger to the child lies in inability to react physiologically to parasitic invasion. That matters of nutrition and nurture may play an important part in his failure, can hardly be questioned ; but it is a very striking fact that the diseases in which ill nutrition and neglect play an obvious primary part, are becoming eliminated from civilized communities. Those which remain as a formidable menace, show little connection with social and nutritive factors.

TABLE SHOWING THE CAUSES OF DEATHS OF CHILDREN UNDER 17 YEARS OF AGE IN THE BOROUGH OF SWINDON DURING THE YEAR 1928.

CAUSE.	0-1	1-2	2-5	5-10	10-17	Total
Pathologically Differentiated—						
Congenital Defects	3	....	....	....	....	3
Asphyxia during delivery	1	....	....	....	....	1
Myxoedema	1	....	....	....	....	1
Congenital Syphilis	1	....	....	....	....	1
Influenza	1	....	2	....	....	3
Whooping cough	10	2	1	....	....	13
Measles	2	7	6	....	....	15
Pneumonia	1	....	....	1	....	2
Diphtheria	....	....	....	2	....	2
Rheumatic Infection & Sequelae	....	....	....	1	....	1
Encephalitis Lethargica	....	....	....	1	....	1
Pulmonary Tuberculosis	....	....	....	1	....	1
Tuberculous Meningitis	1	....	....	1	1	3
Tuberculous Peritonitis	....	....	....	....	1	1
Meningitis following ear disease	....	....	....	....	1	1
Meningitis (Amentia)	....	....	....	....	1	1
Acute Nephritis	1	....	1	....	....	2
Diabetes	....	....	....	....	1	1
Intussusception	1	....	....	....	....	1
Undifferentiated—						
Prematurity	3	....	....	....	....	3
Illfeeding	....	1	....	....	....	1
Bronchitis and Asthma	....	....	....	....	1	1
Marasmus	1	....	....	....	....	1
Haemorrhage....	1	....	....	....	....	1
Convulsions	2	....	....	....	....	2
Unknown	3	....	....	....	....	3
TOTALS	33	10	10	7	6	66

NOTE.—The death of every child under the age of 17 years is made the subject of enquiry, in which all matters connected with the medical history of the child are considered, and from the available evidence the conclusion is drawn as to what was the main factor which destroyed life. In the above table the deaths are given in accordance with these findings. They agree in number, but not in causes of death, with the official records.

INFECTION AND EPIDEMIOLOGY.

EPIDEMIOLOGY.

1928 opened quietly. An epidemic of measles had been expected in late December 1927, but it did not come. There had been many cases of mumps, especially amongst adults, during the last weeks of December. This disease continued into the new year, but rapidly declined about mid-January. A small amount of highly fatal influenzal pneumonia occurred in early January. The report given to the Health Committee in mid-January indicates clearly that no epidemic prevalence of this disease was expected, a forecast which proved to be accurate. The prevalence of smallpox in Glamorganshire and Monmouthshire was disturbing, for owing to the lines of traffic, Swindon has always most to fear from the South Wales coalfield. Whooping cough began to look ugly in mid-February, and during the late Winter and early Spring was the dominant and most fatal infectious disease. March troubled us much with whooping cough, but otherwise was quiet, though clouds were gathering on the horizon. The wide-spread epidemic of measles of severe type in Eastern England and the more extensive, but much milder epidemic in America, made it extremely improbable that Swindon, which had been comparatively free from measles for some years, could escape ; though there was nothing to show whether measles would come from the East, where it was dangerous, or from the West, where it was trivial. Scarlet fever of mild type was prevalent in the surrounding districts and smallpox was gradually invading the Southern Counties. April was the first month of real anxiety. Whooping cough increased and became more fatal from pneumonic complications. A small epidemic of ‘ pink-eye,’ due in this instance to the pneumococcus, troubled us less from its numbers than from its bacteriology. Cases of dangerous, complex and fatal pneumonic septicaemias came to our notice from various sources. Scarlet fever began to increase in late April. The danger spots for scarlet fever were well defined, and the general state of the town, though dangerous for measles, was favourable for scarlet fever. Towards the end of May, the reports show a spotted incidence of scarlet fever, tending to agglutinate in the suspected parts of the town, of an exceedingly mild type, so mild in fact that many cases were missed entirely.

Measles put in an appearance in the middle of June, the first case recognized being in the common lodging house. This case had come from the East, but it was not severe. An outbreak of pneumonia of the June epidemic type, though rather of higher fatality than is common in that variety, caused us considerable anxiety on its own account, but still more so from its co-incidence with the first cases of measles.

Measles remained mild and spread slowly until late July, when it became dangerous and atypical. It dominated the health of the town during the last week of July and first fortnight of August and then abated slowly. It did not leave us until late Autumn. Whooping cough abated in early July and ceased before the end of the month. About mid-September the position had cleared somewhat except as regards scarlet fever. Towards the end of the month, we note that scarlet fever is diffused over the Borough, that its type is exceedingly mild, that many cases only become recognised after they have infected others in the same household. We have a note that any attempt to stem the epidemic prevalence of this outbreak stands little or no chance of success and that the decks must be cleared to deal with large numbers of mild type. The course of events for the next six months was precisely what was anticipated. The interest in scarlet fever in 1928-29 is chiefly in the methods adopted to deal with it, which will be discussed in the Hospital Report. The practitioners of the districts surrounding Swindon called our attention to outbreaks of jaundice amongst children, but we saw none in Swindon itself. It is worth noting that the last three epidemics of scarlet fever in Swindon were preceded by outbreaks of jaundice in children.

On the last day of September, the first case of smallpox was notified. The smallpox outbreak is dealt with elsewhere in this report. All that need be said of it here is that in itself it exercised no influence upon the general health of the Borough, but the amount of work it entailed taxed our time and ingenuity to deal with the other formidable problems which were concurrent.

At the end of October, measles flared up again before finally dying out. Pneumonia of influenzal type put in an appearance. A review of the situation at that time, failed to bring out any circumstance which enabled us to forecast the probabilities of influenza in the late Winter, though the high fatality of pneumonia amongst adult males in November was one feature suggesting a visitation of influenza in February. Things got very complicated during December. A wide-spread epidemic of acute diarrhoea with pyrexia, but only of a day or two's duration, caused some anxiety, for its precise nature could not be determined. It was not of the typhoid, dysentery or salmonella types. It may have been influenzal. Probably it was, and the very extensive prevalence of this "gastric influenza," may be the explanation of the peculiar history of influenza in Swindon in the Winter 1928-29.

At the end of December, the position was complicated and grave. Smallpox was temporarily in abeyance, but suspicious.

Scarlet fever was wide-spread and rampant, the menace of influenza was present and the general level of health unsatisfactory. 1929 had an inauspicious dawn.

Diphtheria, the typhoids, the dysenteries and the acute infections of the nervous system caused us practically no trouble at any period of the year.

DIPHTHERIA.

Diphtheria was as low in prevalence in 1928 as it had been in 1927. There were 33 notifications. All were removed to hospital. 10 proved not to be diphtheria, and three died. One of the deaths occurred in a visitor to the town and is not accredited to Swindon by the Registrar General.

SCARLET FEVER.

There were 279 notifications, of which 200 occurred after August 1st, 1928. An epidemic of scarlet fever started in August, 1928, and had not terminated in March, 1929. This can be dealt with more conveniently in the Hospital Report. There were no deaths from scarlet fever.

PNEUMONIA.

There were 204 notifications of pneumonia compared with 202 for 1927. 66 were removed to Hospital against 63 for 1927. The deaths of **notified pneumonia** were 37 treated at home (26.8%) and 16 treated in hospital (24.2%). Of those admitted to hospital three (all died) were not pneumonia, one being encephalitis lethargica and two acute tuberculosis. Another of the hospital cases was delivered in hospital of a woman dead of influenza. The child lived two days. No precise information is available of the cases who died in their own homes.

THE PNEUMONIAS.

The statistics for pneumonia for the past eight years are as follows:—

Year.	Total No. of cases notified.	Total No. of deaths.	Cases removed to Hospital.			Cases treated at Home.		
			No.	Deaths	Death Rate	No.	Deaths	Death Rate
1921	36	19	....	....	....	36	19	52
1922	156	43	1	0	0	155	43	27
1923	68	28	12	0	0	56	28	50
1924	175	62	31	5	16	144	57	46
1925	204	61	50	10	20	154	51	33
1926	172	52	27	6	22	145	46	32
1927	202	58	63	14	22	139	44	31
1928	204	53	66	16	24	138	37	27
8 years	1217	376	250	51	20.4	967	325	33.6

THE TYPHOIDS.

3 notifications of typhoid were received. One of these (typhosus) was notified from a nursing home. This case was infected and taken ill outside the Borough. Another case of typhosus and one of paratyphosus B occurred in July and were treated in the Isolation Hospital. The typhosus case was a mystery, the paratyphosus case may have been infected away from Swindon during Trip Week.

TUBERCULOSIS.

The statistics show that tuberculosis was less unfavourable in 1928 than it had been in 1927, but the high rate of adolescent cases remains in Swindon, as it is elsewhere, a source of considerable anxiety. Tuberculosis, other than that of the lungs, is well under control and has ceased to be a major scourge ; and the same may be said of the chronic phthisis of middle age and later, industrial tuberculosis. Tuberculosis in infancy, if it in fact ever was extensive, has dwindled almost to nothing since the introduction of child welfare ; but there is no evidence that adolescent tuberculosis, the most rapidly fatal form of the disease, shows any signs of yielding. Preventive action against tuberculosis is hampered by too much talk, too much paper and too little science. In the early months of 1928, before the rush of work forced the suspension of exploring new fields of action, some consideration was given to the question of suppressing tuberculosis. But little headway was made. It was found that the numerous registers, forms, cards, etc., were obstructive rather than useful and that it would be necessary to correlate the information relative to tuberculosis with the general health records of the individual citizens to obtain any facts which might produce ideas. It would seem that what is needed is to ‘ unspecialize ’ tuberculosis and to take it in the general stride of epidemiology. It is not impossible that it may be proved that tuberculosis is subject to the same general laws as are other parasitic reactions. Specialism tends to lead through narrow ways to light-tight chambers, where things ferment rather than resolve.

No action was taken under the Public Health (Prevention of Tuberculosis) Regulations 1925 as no cause for action occurred and no action was taken under the Public Health Act, 1925, Section 62.

SMALLPOX.

Swindon had been free from smallpox since 1923, but the rising menace of this disease caused us increasing anxiety until the epidemic in South Wales in 1927 made it almost incredible that Swindon would escape much longer.

The state of protection by vaccination of the people of Swindon is similar to that ruling generally in Britain ; the adult males are well protected and females born prior to 1907 are generally at least partially protected ; but the protection of the younger members is in inverse proportion to their age. Since the war, England has become an unvaccinated community.

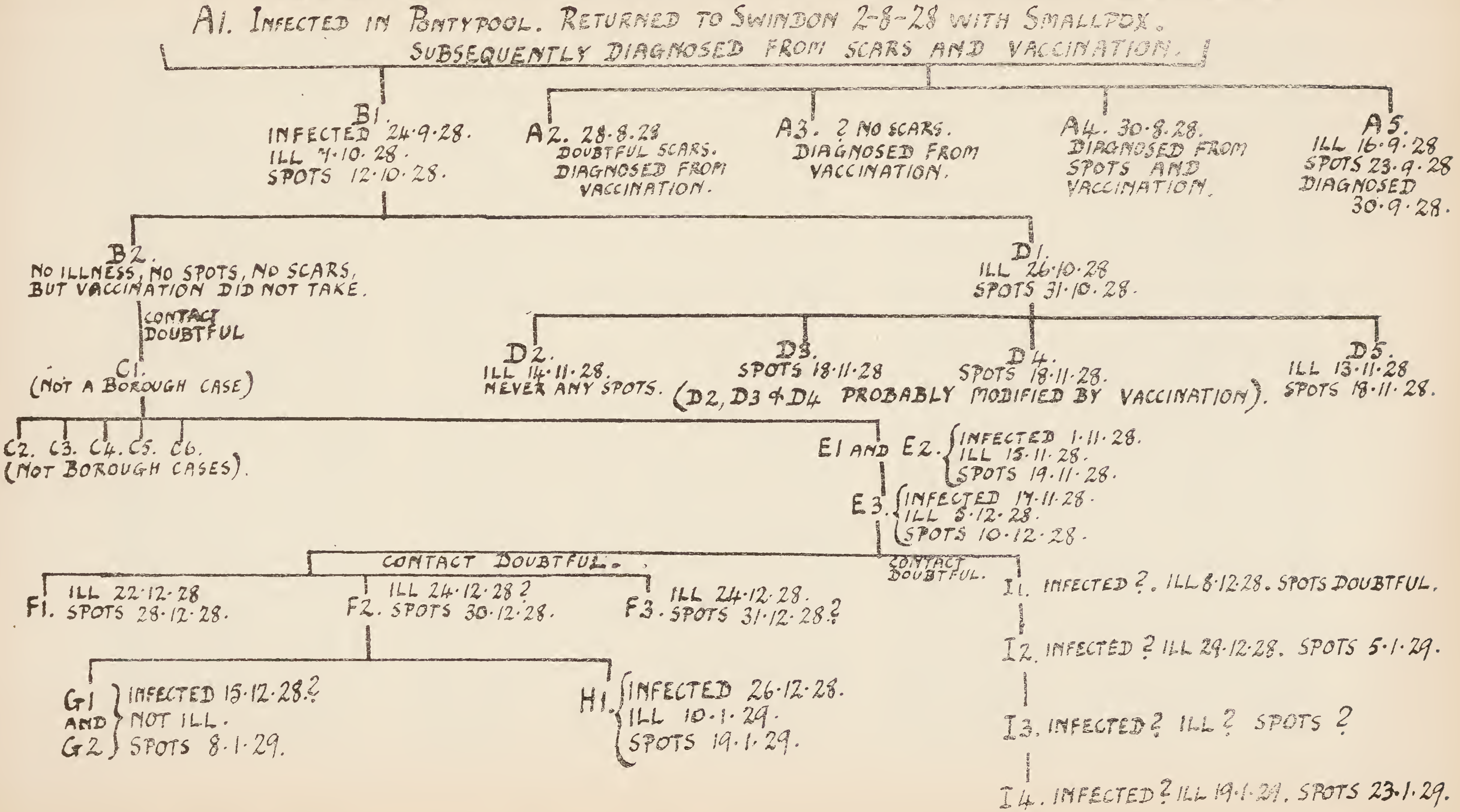
Smallpox is now permanently re-established as an endemic infection and no one who does not wilfully shut his eyes to the facts can escape the conviction that in the immediate future, every part of Great Britain will have to reckon with smallpox as it does with measles, chickenpox and whooping cough. Fortunately the type of disease at present epidemic in England is mild. Whether, and if so when, it will revert to the malignant form, it is impossible to say. That the present mild disease is the same disease as the more virulent form, admits of no question. The two forms (or rather numerous forms) though they differ enormously in degree, differ not in the least in any important detail, which could raise the question of the non-identity of all. The smallpox of 1928 differs from that of 1898 in the same way as scarlet fever in 1928 (amongst northern races) differs from that of 1888. Nobody would have raised this question of identity, had not the consideration of the suitability of ancient public health measures to the present, been forced upon us. Here there is much ground for contention, but it does not bear upon the question of the nature of the disease.

The outbreak of smallpox in Swindon about to be described, presented certain features of great interest, some of which make us think that we were dealing with something intermediate between the very trivial form which has been so abundant recently and the more virulent form which was usual in past decades. Case G1, as certain as anything can be, infected from a nucleus of the mildest form, was typical confluent smallpox of the virulent variety. The child of this case was typical discrete smallpox of the old type. About one-third of the cases were similar in all details and of similar severity to cases which we saw in hundreds during the closing years of the last century.

In July, a boy left Swindon for a town in South Wales and returned home on August 2nd, suffering from acute illness. He developed a few spots a day or two later. He had four sisters each of which got ill in turn ; but it was not until the last developed somewhat severe smallpox on 30-9-28 that the true nature of the outbreak was recognised. Fortunately the members of this family had had rather severe initial symptoms, so that they had not been at large during the period of greatest infectivity. Still the chances of their having infected widely were not negligible. An exhaustive inquiry made it certain that they had not spread the disease outside the family.

The history of the Swindon outbreak is perfectly clear from the ‘genealogical’ table (given overleaf). Some of the contacts are questionable, but the probabilities of the most doubtful being correct are far greater than that they should be errors. Close study of the table shows that it is exceedingly improbable that any case capable of infecting others, was permanently missed.

SMALLPOX OUTBREAK. THE GENEALOGICAL TABLE.


A1. INFECTED IN PONTYPOOL. RETURNED TO SWINDON 2-8-28 WITH SMALLPOX.
SUBSEQUENTLY DIAGNOSED FROM SCARS AND VACCINATION.
B1. INFECTED 24·9·28. ILL 7·10·28. SPOTS 12·10·28.
A2. 28·8·28 DOUBTFUL SCARS. DIAGNOSED FROM VACCINATION.
A3. ? NO SCARS. DIAGNOSED FROM VACCINATION.
A4. 30·8·28. DIAGNOSED FROM SPOTS AND VACCINATION.
A5. ILL 16·9·28 SPOTS 23·9·28 DIAGNOSED 30·9·28.
B2. NO ILLNESS, NO SPOTS, NO SCARS, BUT VACCINATION DID NOT TAKE.
CONTACT DOUBTFUL
C1. (NOT A BOROUGH CASE)
D1. ILL 26·10·28 SPOTS 31·10·28.
D2. ILL 14·11·28. NEVER ANY SPOTS.
D3. SPOTS 18·11·28
D4. SPOTS 18·11·28.
(D2, D3 & D4 PROBABLY MODIFIED BY VACCINATION).
D5. ILL 13·11·28 SPOTS 18·11·28.
C2. C3. C4. C5. C6. (NOT BOROUGH CASES).
E1 AND E2. INFECTED 1·11·28. ILL 15·11·28. SPOTS 19·11·28.
E3. INFECTED 17·11·28. ILL 5·12·28. SPOTS 10·12·28.
CONTACT DOUBTFUL.
CONTACT DOUBTFUL.
F1. ILL 22·12·28 SPOTS 28·12·28.
F2. ILL 24·12·28? SPOTS 30·12·28.
F3. ILL 24·12·28. SPOTS 31·12·28?
I1. INFECTED ?. ILL 8·12·28. SPOTS DOUBTFUL.
I2. INFECTED ? ILL 29·12·28. SPOTS 5·1·29.
I3. INFECTED ? ILL ? SPOTS ?
I4. INFECTED ? ILL 19·1·29. SPOTS 23·1·29.
G1 AND G2 INFECTED 15·12·28? NOT ILL. SPOTS 8·1·29.
H1. INFECTED 26·12·28. ILL 10·1·29. SPOTS 19·1·29.

From the study of this epidemic we came to the following conclusions :—

The vaccination of known contacts suggests that infection followed by complete immunity may occur without any sign of sickness whatever. Unfortunately the practice of vaccination in England renders it as difficult as possible to get any facts of scientific value, but in the earlier cases vaccination under standard controlled conditions was carried out by members of the health service and the reactions examined from day to day. From these observations it is clear that some contacts do develop immunity without any tangible sign of disease. Whether these infected contacts at any period are capable of spreading the disease could not be ascertained with certainty,* but the case of B2 raises this point, as in all probability this infected C. Vaccination cannot be relied upon to protect those already infected. Vaccination performed any time within 14 years before exposure protects absolutely.

The case C was the only case in the first period of the epidemic who had ever been vaccinated (in infancy). This evidence of the efficiency of vaccination is not considered as of much importance,for most inhabitants of Swindon and district are unvaccinated. The workers in Wills' Tobacco Factory, who were protected by vaccination early in the epidemic, escaped entirely. This is good evidence ; for the population most at risk, and which furnished the greatest number of cases, was that of the young women.

The incubation period was in all cases over 13 days and generally 17. From spots to spots it was from 16 to 23 days.

The day of highest infectivity appeared to be the day before the spots appeared. Infection in the first two days of sickness was not evident. After the appearance of the spots, the infectivity declined rapidly but the case of the boy which connects the two phases of the epidemic showed that it did remain for some time.

Initial symptoms—always considered as influenza, except in two in which appendicitis was suspected—occurred in all except the confluent case and her child, in which there were no symptoms prior to the involvement of the skin. Vomiting, headache, backache and high pyrexia were general, but the most careful study of contacts watched right through, left us convinced that the diagnosis of smallpox during the initial fever is impossible. The spots appeared from the fourth to the seventh day, generally upon the day on which the patient got up in the belief that his sickness was over. The course, nature and distribution of the eruption were according to rule. In the more severe cases, we failed to establish any difference from the eruption of former years. Scarring is still evident in the more severe early cases ; in some it is so obvious that a diagnosis can be made now from the scars alone. Slight secondary fever was present in many and very high fever in the confluent case who developed corneal ulceration and deep pitting.

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* Evidence gathered in the later part of the epidemic suggests that these immunes to primary vaccination do spread the disease.

The chief interest in the Swindon outbreak is of course the confluent case, for nothing quite similar has been recorded in England from the mild form of the disease. The interval between fever and spots showed a tendency to diminish as the epidemic progressed. Another tendency was for the individual pocks to be deeper and larger and for fewer of the papules to abort.

There was nothing to suggest that any means of spread other than case to case infection was in operation during the first phase of the epidemic. Immediate or close contacts seemed to run no more risk than casual contacts. We were left with the firm belief that for one period—just before the eruption was noticed—there was high infectivity, but that this period was very short, a few hours at the most. The two cases E1 and 2 infected from C are striking. C visited twenty places in one afternoon. In one place he infected both persons he saw, in the other nineteen places he infected nobody. One of these cases infected E3. Here the times and duration of contact are known for certain, thus enabling us to fix the incubation period, in this instance, of 23 days from exposure to eruption of spots.

The outbreak is divided into two periods, from September 1928 to January 1929 and from March 1929 onwards. Between January 26th and March 5th no case was notified, but one did occur which was unrecognised and which, connecting the two outbreaks, is responsible for all cases which occurred after February.

Here the matter must be left until the epidemic is over, for it belongs more to 1929 than to 1928 and the most curious and interesting points are connected with the cases occurring in the second period.

CANCER.

The deaths from cancer, namely 91, were greater than in any previous year, but it is impossible to work out the rate for 1928 owing to the complication of the extension of the Borough. Previous to 1928 the cancer rate had been declining, but it is certain that for 1928 there was a considerable increase.

We have under consideration a scheme for extending the women's consultation clinics with the view of obtaining the recognition of cancer of the female organs at the earliest possible stages.

DIABETES.

There were 10 deaths from diabetes in 1928. There is no doubt that this disease is increasing, that it is becoming more a disease of females than of males and that its incidence in childhood is increasing enormously, at all events in Swindon.

Dr. T. P. Berry of the G.W.R. Medical Fund, who takes a keen interest in diabetes and has specialized in its modern treatment, has managed to get a large number of diabetes cases under his supervision and from him we are able to obtain valuable information of the extent and variation of this disease or diseases.

The average number of deaths from diabetes in Swindon is 7, though in 1927 it had sunk to 2.

ABDOMINAL DISEASES.

3 deaths are reported from peptic ulcer and 4 from appendicitis, numbers which are exceedingly small when the extent of these diseases and the number of operations performed for their relief are taken into consideration.

The number of appendices removed is somewhat astonishing. Last year there were over 200 appendicectomies done in the institutions of the town. This is about an average number for recent years, so one must conclude that not far short of one person in four undergoes the operation for removal of the appendix.

VITAL STATISTICS.

Owing to the difficulty of knowing the precise population of Swindon since the alteration of its boundaries, the vital statistics for 1928 are approximate only. 910 births are accredited to the Town against 830 for the previous year, giving a rate of 15.63 against 14.52 for 1927. 578 deaths occurred, giving a death rate of 9.92 against 11.16 for 1927. The infantile mortality rate was 36.26 which is by far the lowest ever recorded in the history of the Borough, the nearest approach to it being 46.98 for 1927. The infantile mortality rate is cast from the number of deaths and births of infants and is therefore free from any error due to uncertainty of the population figure.

The natural increase of the population, namely, the excess of births over deaths, was 332. The population of the Borough as given by the Registrar General was in 1927, 57,150. On the alteration of the Borough boundaries on October 1st, 1928, this figure was increased to 59,380 and at the end of the year it was further increased to 61,110. It is probable that none of these figures represents the true population. Another figure, namely, 58,220, is furnished by the Registrar General as the basis for the computation of the vital statistics. This is a purely hypothetical figure. We shall not know accurately the population of the Borough until the census of 1931.

ISOLATION HOSPITAL, GORSE HILL.

ANNUAL REPORT

From 1st April, 1928, to 31st March, 1929.

ISOLATION HOSPITAL.

The hospital year has always run from the 1st April to the 31st March, and it was considered advisable not to disturb this timing for the present year. There is, indeed, good reason for keeping to this date rather than to the calendar year, for though infection is a continuous process without dates, the nearest time to a natural break in epidemiological history occurs at the end of the Winter.

The year 1928-1929 was the busiest year in the history of the Hospital for which records are available.

In October the Hospital passed from the control of the Swindon and District Hospital Board to that of the Town Council and though this involved considerable changes of clerical and administrative natures, it produced no difference whatever in the work of the Hospital.

Owing to the uncertain outlook of the late Hospital Board, several matters of considerable magnitude had been delayed until the future was more certain, but as soon as the control was taken over by the Town Council these were brought forward for settlement. The first was the reorganization of the drainage of the Hospital. The draining system of the Hospital had been laid down at various dates and was of varying degrees of efficiency. When the Hospital was built it stood in the midst of fields and the original system of drainage, if it had ever been satisfactory under the conditions then ruling, was certainly not efficient now that the Hospital has become an integral part of the town. After going into the matter very carefully, it was decided that the cheapest procedure would be to relay the drainage system of the Hospital in its entirety and this has been done.

The reconstruction of the administrative block and alteration of the quarters for the staff had been agreed to by the late Board before the start of the War, but the work was never even started. It had become steadily more and more urgent and is now imperative and the Council have decided to set about it forthwith.

In the course of the year the late Board passed a resolution to accept for treatment in the Hospital, cases of measles uncomplicated by pneumonia in which, in the opinion of the local medical officers of health, accommodation in Hospital was needed in the interests of the public health, or of the sufferers themselves.

The Town Council, in taking over the Hospital, automatically accepted all the resolutions of the late Board, save such as became immediately obsolete on the change of management. Until the Town Council sees fit to alter these arrangements, they will remain in being as though no change of management had come into force. The present report, therefore, can follow the same lines as its predecessors.

For some years the Hospital has been the centre for the control of epidemic disease in the Borough and surrounding districts, so that it is something very much more than an institution for the segregation of infectious sick persons who are sent to it for treatment. As may be gathered from other parts of this annual report, the epidemiology of Swindon during the year under review was extremely complicated and the six months September, 1928 to March, 1929 presented an endless series of difficulties, calling for immediate solution.

The number of new admissions to the Hospital in 1928-29 was 529, against 299, 302, 485, 240, 228, 307 and 303 for the seven preceding years. The great increase was accounted for mainly by scarlet fever. The principle upon which the beds in this Hospital are allocated, is that the institution exists primarily for the suppression of infection and for the complete treatment of infections of a dangerous character, requiring special expert treatment and investigation. Of all human infections at the present moment, the least important is scarlet fever. In the past, scarlet fever took preference of all other diseases, at the present moment it stands last on the list. It is the infection for which isolation is least necessary, which is least dangerous and which calls least often for special treatment. It must, therefore, always give place to more urgent matters and must not be allowed to occupy accommodation which is most urgently needed for more serious diseases. Yet under local circumstances scarlet fever must be isolated in Hospital in Swindon, so when we are faced with an extensive outbreak of scarlet fever, as we were during last year, considerable ingenuity is required to deal with it efficiently without paralysing the more important functions of the Hospital.

On April 1st, 1928, there were 29 cases remaining in Hospital. 529 were admitted during the hospital year, making 558 under treatment during the year. Of these :—

496 were discharged cured.
4 were discharged to other institutions.
28 died and
30 remained in Hospital on 31-3-29.

The new admissions were received under the following notifications :—

Scarlet Fever	366
Diphtheria	48
Pneumonia	84
Encephalitis Lethargica	1
Cerebro-spinal Meningitis	2
Erysipelas	5
Puerperal Sepsis	5
Babies with Mothers	6
Typhoid Fever	3
Measles	8
Polio-myelitis	1

The 529 cases arranged according to the final diagnoses were :—

Diphtheria	41
Scarlet Fever	340
Pneumonia	87
Erysipelas	5
Doubtful Cerebro-spinal Meningitis	1
Puerperal Sepsis	6
Babies with Mothers	7
Tonsillitis	9
Streptococcal Septicaemia	1
Neurasthenia	1
Membranous Ophthalmia	1
Tuberculosis	2
Bronchitis	1
Typhoid Fever	1
Para-typhoid Fever	1
Rubella	1
Polio-myelitis	1
Congenital Syphilis	1
Tuberculous Meningitis	1
Measles	9
Impetigo	1
Scabies	1
Diabetes	1
Scarlet Fever & Whooping Cough	3
Whooping Cough	1
Catarrhal Jaundice	1
No obvious disease	4

DIPHTHERIA.

Fewer cases of diphtheria were admitted to the Hospital than for many years previously, the disease not being prevalent either in the town or in the district at any time during the year. There were 41 cases of diphtheria treated throughout the year, of which 7 had been left in from the previous year.

The cases were not only few, but they were somewhat extraordinary. Of the 41 cases, 8 were laryngeal, of which 5 recovered after anti-toxin alone given intravenously ; 1 recovered after tracheotomy ; 1 was admitted after the breathing had stopped and died after tracheotomy, and 1, a man of 48, died from secondary heart failure after laryngotomy. One of the cases which recovered by anti-toxin alone was a man of 60 whose condition was considered to be desperate on admission. 2 were admitted in a state of general paralysis, the disease having been missed in its early stages ; of these, 1 died from spread of the paralysis to the diaphragm and the other recovered. One other case of general paralysis and one case of local paralysis also occurred. 4 cases developed late heart failure, but recovered. 3 cases developed secondary sore throat, 2 developed otorrhoea, 2 enteritis, 1 nephritis and 1 was a temporary carrier, who was eventually cleared. This is a most extraordinary collection. The occurrence of two cases of laryngeal diphtheria in adult males at the same time is probably unique in medical history. 3 of the cases died, giving a mortality of 7%, a very satisfactory result when the nature of the cases is considered.

THE PNEUMONIAS.

8 cases of pneumonia remained in hospital on 31-3-28 and 84 were admitted during the year, 92 cases in all treated, the largest number on record.

These cases arranged in accordance with their differential diagnosis give.

Variety.	Cured.	Died.	Total.
Pneumonia.—			
Croupous type	27	2	29
Influenzal type	8	2	10
June Epidemic type	6	....	6
Pleuro pneumonic type	7	2	9
Measles pneumonia	13	3	16
Whooping Cough pneumonia	5	1	6
Broncho pneumonia .... (uncertain type)	4	1	5
Moribund on admission	....	5	5
Not Pneumonia—			
Rheumatic fever	1	....	1
Capillary bronchitis	1	....	1
Acute tuberculosis	....	2	2
Malaria	....	1	1
Congenital syphilis	....	1	1
Totals	72	20	92

Appreciation of the provision made for the pneumonias grows steadily, but there remains a difficulty to be overcome before the maximum benefit is obtained from it. Pneumonia is a most acute condition with the shortest duration of all diseases, lasting on an average seven days and, if uncomplicated, rarely exceeding nine. The outlook depends to a great extent upon the management of the first three days and nights, though the real struggle does not occur until the fifth day or later. The relatives of the patient naturally do not recognise the formidable difficulties of treating pneumonia at home until two or three nights of strain, increasing alarm and delirium have exhausted the strength of the patient and the endurance of those attending him. So we get cases sent in late. Five cases admitted moribund, none of which lived more than eight hours, and five other cases sent in so late that all chance of effective treatment was lost, cannot be considered satisfactory. It must however be said that some of the moribund cases are only sent in because the home conditions are such that death and burial are less upsetting in an institution than in the patients'' usual habitat. Still there is no reason why the admission of such cases should be so long delayed. Our experience is that the actual process of removal is favourable to the patient in the early days of the disease, before the heart becomes severely poisoned. In the late stages, removal itself may have an unfavourable influence, but its danger is not great. Sufficient material is now available from Swindon for the discussion of the means of deciding the clinical types of pneumonias and of forming a prognosis from the blood changes and the treatment of the disease by antitoxins. These matters, which are necessarily highly technical and controversial, would be out of place in an annual report, so they will be published elsewhere.

Pneumonia is the greatest of all the risks of life and its intense importance to the person struck down, tends to make us lose sight of its bearing upon the health of the community and of the prospect it offers of prevention. To the public health, pneumonia is of more consequence than any other factor ; if we know accurately what pneumonia is doing, we can tell the health of the community and forecast what is about to happen to it. Pneumonia when primary is not a very fatal disease, but when implanted upon other infections or upon chronic disease it is the prime killer of man. A bad pneumonia year means a year of general ill-health and high death rate, a good pnuemonia year one of good health and low death rate. From the numbers, but still more from the types, of pneumonia which are in Gorse Hill at any given time, the health of Swindon for the immediate future can be determined with surprising accuracy.

SCARLET FEVER.

We were troubled little by Scarlet Fever from the epidemic of 1925 until April, 1928, when the occurrence of some cases of exceptional mildness led to the discovery of previous cases which had been still more mild. A review of the situation at the end of April told us that we were on the eve of an outbreak of some magnitude, of high infectivity, but of low virulence and that attempts to suppress it would prove futile. It was therefore necessary to consider the methods of dealing with a situation which could not be avoided. Abundant data were available to enable us to forecast the extent, nature and distribution of the approaching epidemic. No infectious disease, when it becomes epidemic, can ever be accommodated with complete comfort, but it is not so difficult to prevent a breakdown when the extent of accommodation required can be estimated with an approach to accuracy. We knew that our means would be strained at the height of the epidemic period and that one of three methods would have to be adopted ; to leave the cases in their own homes, to increase the number of beds in the wards, or to curtail the stay in hospital. The second method, that generally adopted in the past, offends all the canons of epidemiology and is much worse than no provision at all. Home treatment of scarlet fever, although in many places feasible and satisfactory, is not generally good practice in Swindon for reasons which have been given in previous reports. Immediately after the publication of the report of the Ministry of Health on the management of scarlet fever, the minimum period of detention in hospital was cut down from 42 to 28 days and ' peelers ' ceased to be admitted, except in unusual circumstances. It was clear, however, that during part of the epidemic, 28 days detention was longer than we could afford, so this was gradually further curtailed. Since the onus of proof is upon the introducer of a new method, it was necessary for us to watch each step as it was taken and to be guided by the results of our experience. We knew that two disadvantages must follow, and two others might follow, from curtailment of stay in hospital. The two former are the temporary suspension of the provision of surgical treatment before the patients are discharged from hospital, of tonsils left enlarged after scarlet fever and the necessity of discharging children in a less ' finished ' condition than that to which we aim in normal times. The two disadvantages which might occur are an increased percentage of return cases and an increase in the number of complications developing after discharge from hospital. Fear of either of these proved groundless ; return cases were rarer than they have ever been and the complications occurring after discharge were insignificant.

340 cases of scarlet fever were treated in hospital, representing about 90% of the cases which could be recognised clinically. The cases were of unusual mildness ; no deaths occurred, few complications of any consequence were registered and permanent damage was limited to three—one heart, one kidney, one ear. Whenever it could be determined with accuracy, the incubation was 80 hours, the same as it has been in Swindon for the past five years. There is little doubt that this incubation period is constant for the type of disease we have had recently locally. The type was indeed remarkably consistent, for though there was some variation of severity in the cases, there was none in type.

Of the 340 cases only 26 were given antitoxin, the best evidence that can be brought forward of the mildness of the epidemic ; for antitoxin is given in all cases which are not trivial. The complications were as follows :—

	Occurring in hospital.	Occurring after discharge.	Total.
Enlarged glands *	10	2	12
Secondary sore throat	12	2	14
Otorrhoea	25	5†	30
Septic sores	6	....	6
Systolic murmurs	24‡	....	24
Chorea	1§	....	1
Endocarditis	2‖	....	2
Rheumatism	3	....	3
Herpes	8	....	8
Nephritis	1	....	1
Jaundice	2	....	2
Corneal ulcer	1	....	1
Conjunctivitis	1	....	1
Relapse ×	1	....	1

* No case of abscess occurred.

† Three of these were relapses.

‡ Five had not cleared up on discharge, two of these were old rheumatic hearts and one congenital disease.

§ Before scarlet fever developed.

‖ One before scarlet fever developed.

× On the 23rd day.

The cases of otorrhoea :—

Day of development :—

2nd	1
3rd	2
4th	1
6th	3
7th	2
9th	1
10th	1
11th	3
12th	2
15th	1
17th	1
20th	1
23rd	1
35th	1
after discharge from hospital	3
date of onset uncertain	4

Duration until perforation completely scarred.

6 days	1
14 ,,	1
16 ,,	2
19 ,,	1
20 ,,	1
21 ,,	2
23 ,,	1
25 ,,	1
26 ,,	1
27 ,,	2
28 ,,	3
29 ,,	1
30 ,,	2
40 ,,	1
unknown	8

One child was admitted with concurrent chickenpox, three with concurrent whooping cough and one developed smallpox in hospital. With the exception of the last there was no cross infection.

Six children had tonsils removed in hospital and 53 were sent out with tonsils which will require removal subsequently. Few of these enlargements were the direct result of scarlet fever.

RETURN CASES.

A return case is ' a case of infectious disease occurring within 28 days in a household to which a case treated in hospital has been returned.' Eleven such cases were investigated. Three of these were rejected as there was no possible connection between the cases, five were definitely accepted and three were doubtful. The rate for return cases is therefore little more than 2 per cent, the lowest ever recorded in Swindon and less than half the standard rate. It would appear therefore that the practice of curtailing the stay in hospital decreases rather than augments the dangers of spreading infection. This is what might be expected from epidemiological considerations. The return cases were connected with patients who had been in hospital 31, 29, 28, 23, 24, 29, 26, 35 days. The length of stay of all cases is given in the following table :—

less than 20	days	7
20	,,	5
21	,,	11
22	,,	7
23	,,	5
24	,,	13
25	,,	23
26	,,	50
27	,,	47
28	,,	78
29	,,	28
30	,,	11
31	,,	12
32	,,	6
33	,,	6
34	,,	2
35	,,	11
36-42	,,	28
above 42	,,	13
		363*

We form the conclusion that for the type of scarlet fever prevalent at present, 28 days detention is the maximum required in the interest of the public health ; that this period may be cut down to 25 days in times of stress without any risk, and curtailed further to 21 days without serious risk. Provided of course that no limit is placed on the length of treatment required in the interests of the patients.

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* These are discharges, not admissions. Hence the discrepancy of this number, 363 with that of the admission, 340.

The cases of scarlet fever not removed to hospital are of two classes, those not removed because they were unrecognised and those treated at home because the home conditions offered facilities for isolation. Of the latter, there were only six, but two of these gave rise to return cases. Of the former, the number was considerable and indefinitely known for they only come to light when a further definite case occurs in the same household. This was a very common occurrence, multiple cases being exceptionally numerous.

PUERPERAL SEPSIS.

There were only 6 cases of puerperal sepsis treated in the Hospital during the year. One case was admitted from the Maternity Hospital suffering from femoral thrombosis with emboli in the pleura and suspected empyema. She had several fresh emboli from time to time and the thrombosis spread to the iliac veins. She eventually recovered. The second was a case of retention with infection of bacillus coli. The third was a case of streptococcal septicaemia. The fourth was a case of scarlet fever occurring in the puerperium. The fifth was a case of retention with slight streptococcal septicaemia. The last was a case of scarlet fever with some retention. All the cases recovered completely.

MEASLES.

Only 9 cases of measles, apart from those complicated by pneumonia, were admitted during the year. There was never any intention of admitting cases other than those who were very desperately ill, who were suffering from eye or cerebral complications, or those whose home conditions rendered removal imperative in the interests of the public health.

Of the 9 cases admitted, 2 died with symptoms of encephalitis and one developed iritis and died suddenly from acute pneumonia. The cases admitted as measles with pneumonia are dealt with under the latter disease.

CONCLUSION.

CONCLUSION.

There is no easy road to health, either for the individual or for the community. Not by repeating a few slogans nor by distributing a handful of pamphlets can we guard ourselves against the innumerable adversities with which we have to contend. Every change of environment, every action, every thought, which comes to us in the course of our history, brings its own potential dangers. Nature plays always on our side, for by endowing us with the power of adaption she frustrates most of the evils to which, if we could not adapt ourselves, we should speedily succumb. But adaption has its limits, and when once it fails, the road is downhill all the way to the end. The capacity for automatic adjustment, our great safeguard, not only against our enemies from without but against ourselves, makes it extremely difficult to discover what are the causes which strain us, for we have no appreciation of baneful influences until our power to accommodate ourselves to them breaks down altogether and we become diseased.

Physiology tells us how the body and mind act, what they do and how they do it, and why they do it and what increases their difficulties in working, or upsets them altogether. The aim of prevention is to glean from the physiologists what are the evils which cause trouble to the organism and knowing them to try to prevent, inhibit or dislocate them. Physiology is a science which speaks a precise language and gives its results in mathematical formulae. Prevention is a practice, its words are simple and its work everyday actions which can be understood and done every day by anyone who can do anything at all.

Somebody whose enthusiasm was more commendable than his taste, brought out Ten Commandments of Health. These diverge from the Great Example they parody in that the Ten Commandments contain all that is necessary for their purpose, the health commandments, only a fragment. We may obey them all and yet earn any one of the ten thousand labels under which the Registrar General allows us to be buried ; we may neglect the lot and live long enough to die a natural death—a mode of exit which the Registrar will not admit. In truth these commandments are sound enough in their way and we should all obey them conscientiously ; but we are always being misled by the exaggerated claims of enthusiasts and specialists, who having useful goods to give us, defeat their utility by advertising them as panacea, so discrediting themselves and their gifts and producing in the people cynicism and indifference instead of education.

Sanitation has reduced the continued fevers almost to vanishing point, but has had no influence on the endemic infections. Soap and water is fatal to lice and louse-borne disease, but is impotent with the parasites of ringworm and fosters, rather than inhibits, some of the infectious skin diseases. Good food cures the illnourished and kills gourmands. Why should we expect it to be otherwise ! We do not quarrel with good boots because they make a bad diet ! But we should contemn our shoemakers if they cajoled us into buying their wares as a cure, not only for tender feet, but for bruised hearts and empty stomachs.

There is assuredly no straight road to health and no orthodox or statutory method of quelling disease. The guarding of the health of a community depends chiefly upon the help which each citizen gives for himself, and the value of what is done for him varies with the use he makes of it and the intelligence with which he does what he is intelligently told to do. It is not the Public Health Acts, statistics, ledgers, letters, cards and registers which make up a public health service ; it is not the buildings and the offices, the hospitals and the clinics. It is the understanding between the people and the health experts, the way in which the science of the latter is transformed into action by the former, which is the essence of modern health organisation. Though the people need not, and in fact could not, understand the technical complexities of human biology, they must be taught to understand its practical bearing. How to get to biological truth ; the experiment and the research, the critical examination of evidence and the mathematics of biometry, belongs entirely to the expert ; the result is the property of all and must be delivered in a form within the appreciation and within the power of practical application of every man and woman who lives in a community. Between the bench of the laboratory and the kitchen table, the fire grate or the workshop ; between what the professor tells his students and what the mother tells her child, there is a great void which must be bridged, and the building of that bridge is the work of the health officer. " I have given you a reason, you must supply your own understanding" will not do in health work. The understanding must be given as well as the reason, and if this cannot be achieved the teaching is faulty or the reason is bad. Not all the science in the world will make a healthy nation unless it is practiced, nor will all the endeavours of mankind effect aught, unless they are in accord with science. The work of public health is to carry the fruit of science into the homes of the people, it is the duty of the people themselves to utilise it.

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BOROUGH OF SWINDON.

GENERAL STATISTICS.

Area (Acres)	6021	
Population (1928)	61110	
Number of inhabited houses (1928)	15151	
Number of families or separate occupiers (1928)		(Figure not available).
Rateable Value (General Rate)	£366,600	
Sum represented by a penny rate	£1,475	

EXTRACTS FROM VITAL STATISTICS OF THE YEAR.

		Total	M.	F.	
Births	Legitimate	871	451	420	
	Illegitimate	39	22	17	Birth Rate 15.63
Deaths	....	578	306	272	Death Rate 9.92

Number of women dying in, or in consequence of childbirth	From sepsis	1
	From other causes	3

Deaths of Infants under one year of age per 1,000 births :—
Legitimate 35.59 Illegitimate 51.28 Total 36.26

Number of deaths from Measles (all ages)	4
,, ,, ,, Whooping Cough (all ages)	7
,, ,, ,, Diarrhoea (under 2 years of age)	4

INFECTIOUS DISEASE.

TABLE showing the numbers of Infectious Diseases notified in the Borough during the year 1928.

Disease.	Cases notified at various ages. (Years).												Total cases notified	No. of cases admitted to Hospital	Total Deaths
	Under 1	1-2	2-3	3-4	4-5	5-10	10-15	15-20	20-35	35-45	45-65	65 & upwards			
Smallpox	—	—	—	1	—	1	2	—	4	—	1	—	9	9	—
Diphtheria	—	2	2	2	—	16	6	1	3	1	—	—	33	33	4
Erysipelas	—	—	—	—	—	1	—	1	2	2	6	4	16	5	1
Scarlet Fever	2	—	1	11	11	138	74	15	24	2	1	—	279	261	—
Ophthalmia Neonatorum	4	—	—	—	—	—	—	—	—	—	—	—	4	—	—
Dysentery	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pneumonia	21	20	19	12	10	28	7	8	25	18	26	10	204	66	53
Enteric Fever	—	—	—	—	—	1	1	—	—	—	1	—	3	2	—
Continued Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Encephalitis Lethargica	—	—	—	—	—	1	—	—	—	—	—	—	1	1	1
Puerperal Pyrexia	—	—	—	—	—	—	—	2	16	5	—	—	23	6	2
Puerperal Fever	—	—	—	—	—	—	—	—	2	1	—	—	3	1	—
Poliomyelitis	—	—	—	1	—	—	—	—	—	—	—	—	1	1	—
Cerebro-spinal Meningitis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Polio-encephalitis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Malaria	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tuberculosis—															
(a) Pulmonary M.	—	—	—	—	—	2	1	3	18	9	7	—	40	—	21
F.	—	1	—	—	—	1	1	4	13	4	5	—	29	—	19
TOTAL													69	—	40
(b) Non-Pulmonary M	1	—	1	1	1	8	6	4	3	—	—	—	25	—	7
F	1	1	—	1	1	4	4	2	5	—	1	—	20	—	1
TOTAL													45	—	8
TOTALS	29	24	23	29	23	201	102	40	115	42	48	14	690	385	109

TABLE SHOWING MONTHLY INCIDENCE OF INFECTIOUS DISEASES AND THE NUMBER OF DEATHS DURING 1928.

Disease.	No. of Cases.												Total	No. of deaths.
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.		
Smallpox	—	—	—	—	—	—	—	—	—	2	6	1	9	—
Diphtheria	8	1	2	—	—	1	3	4	3	3	4	4	33	4
Erysipelas	—	2	3	1	2	—	—	—	1	2	2	3	16	1
Scarlet Fever	10	11	11	13	14	12	5	20	23	49	61	50	279	—
Ophthalmia Neonatorum	1	1	—	—	—	—	1	1	—	—	—	—	4	—
Dysentery	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pneumonia	21	23	19	21	9	23	14	12	8	23	19	12	204	53
Enteric Fever	—	—	—	—	—	—	1	1	—	—	1	—	3	—
Encephalitis Lethargica	—	1	—	—	—	—	—	—	—	—	—	—	1	1
Puerperal Pyrexia	1	2	3	2	1	3	2	1	1	4	1	2	23	2
Puerperal Fever	—	—	1	—	—	—	—	1	1	—	—	—	3	—
Poliomyelitis	—	—	—	1	—	—	—	—	—	—	—	—	1	—
Polio-encephalitis	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cerebro-spinal Meningitis	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Malaria	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Continued Fever ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TOTALS	41	41	39	38	26	39	26	40	37	83	94	72	576	61

TUBERCULOSIS 1928.

Age Periods.	New Cases. Pulmonary		New Cases. Non-Pulm'ry		Deaths. Pulmonary		Deaths. Non-Pulm'ry	
	M	F	M	F	M	F	M	F
Under 1 year	....	....	1	1	....	....	1	....
1—5	....	1	3	3	....	....	....	....
5—10	2	1	8	4	1	....	1	....
10—15	1	1	6	4	....	....	2	....
15—20	3	4	4	2	1	1	....	1
20—25	8	6	1	....	5	7	1	....
25—35	10	7	2	5	4	6	2	....
35—45	9	4	....	....	5	2	....	....
45—55	4	4	....	1	2	2	....	....
55—65	3	1	....	....	2	1	....	....
65 and over	....	....	....	....	1	....	....	....
TOTALS	40	29	25	20	21	19	7	1

DEATHS FROM TUBERCULOSIS, 1928.
TABLE SHEWING WHEN CASES WERE NOTIFIED.

When Notified.	Pulmonary		Non-Pulmonary	
	Males	Females	Males	Females
One year or more before death	6	12	2	....
Less than one year and more than 6 months before death	3	....	....	....
Less than six months and more than two months before death	1	....	....	....
Less than two months before death	4	2	2	....
At or immediately before death	2	4	3	1
Unnotified. (Cases who died outside the Borough and never notified to Swindon.)	5	1	....	....
TOTALS	21	19	7	1

Comparative statement showing the number of notifications received of the various forms of Tuberculosis and the Death Rates resulting from each form of the disease for the years 1914-1928.

	1928	1927	1926	1925	1924	1923	1922	1921	1920	1919	1918	1917	1916	1915	1914
No. of cases notified (all forms)	114	102	94	91	111	117	103	98	97	73	116	129	132	140	160
Respiratory Tuberculosis	69	70	56	66	75	75	68	63	72	51	86	102	95	86	101
Deaths from Respiratory Tuberculosis	40	45	30	42	42	48	59	42	55	44	66	60	48	51	53
Deaths from Tuber. Meningitis	6	1	8	5	4	12	6	11	8	8	11	8	10	10	3
Deaths from other forms of the disease	2	9	3	4	7	7	6	12	6	8	11	10	10	8	1
Total deaths from Tuberculosis	48	55	41	51	53	67	71	65	69	60	88	78	68	69	57
General Death Rate for all forms of Tuberculosis	0.82	0.96	0.71	0.89	0.93	1.19	1.27	1.17	1.28	1.16	1.74	1.5	1.3	1.32	1.07
Death Rate for Respiratory Tuberculosis	0.68	0.78	0.5	0.73	0.74	0.85	1.05	0.75	1.02	0.85	1.30	1.15	0.95	0.98	1.0

BACTERIOLOGICAL INVESTIGATIONS.

	Public Health Dept.							School Medical Dept.						
	1922	1923	1924	1925	1926	1927	1928	1922	1923	1924	1925	1926	1927	1928
Examinations carried out by Bristol University	7	3	....	5	4	9	13	....	....	2	1	2	....	1
Examinations carried out at Gorse Hill Hospital :—														
Throat swabs examined	178	161	613	780	646	93	168	4	1	....	....	....	....	....
Urine : Examination for Tubercle bacilli	....	....	....	....	....	....	....	1	....	....	....	....	....	....
Examinations carried out at 61 Eastcott Hill :														
Throat ; swabs examined direct	7	....	....	5	83	157	244	3	1	2	6	1	3	21
Eyes ; swabs examined direct	62	71	48	33	45	41	55	17	9	11	1	5	....	6
Pus and discharges :—														
For Tubercle bacilli	3	8	3	20	9	9	9	13	9	5	8	2	....	1
For other organisms (cultures)	48	43	25	47	34	37	22	20	18	18	11	4	1	1
Hair. Examinations for Ringworm fungus	11	13	18	12	11	9	....	637	430	507	439	253	229	271
Other conditions	....	....	1	3	1	....	1	6	....	5	4	1	....	2
Blood, Histological examinations	2	9	50	48	27	18	14	5	36	66	149	83	53	56
Blood for Wasserman Reaction	....	....	....	2	....	....	....	....	....	....	....	1	2	1
Cerebro-spinal fluid	....	....	1	....	....	1	1	....	....	....	....	....	....	....
Sputum. For Tubercle bacilli	3	1	1	....	....	2	2	7	....	2	....	1	....	1
For other organisms	3	1	1	....	....	....	....	2	....	2	....	....	....	....
Urine-Chemical examinations	78	27	19	15	....	13	49	13	8	23	16	12	6	23
,, Microscopical examinations	....	....	....	9	....	8	17	....	....	....	2	....	4	19
,, Bacteriological examinations	....	3	5	....	....	....	....	....	....	3	....	4	....	....
For diseased meat	....	13	10	16	33	17	23	....	....	....	....	....	....	....
Miscellaneous	6	13	....	....	26	34	22	13	2	2	....	1	....	....
Totals	408	366	795	995	919	448	640	741	514	648	637	370	298	403

No. of samples of water submitted for chemical and bacteriological analysis during 1928 35

No. of samples of sewage effluent submitted for chemical examination during 1928 12

REVIEW OF THE COMPARATIVE VITAL AND MORTALITY STATISTICS FOR THE BOROUGH OF SWINDON, TOGETHER WITH THOSE FOR ENGLAND AND WALES FOR THE YEARS 1901 TO 1928 INCLUSIVE.

	BIRTH RATE		DEATH RATE		INFANT MORTALITY RATE.		
Year	Swindon	England and Wales	Swindon	England and Wales	Swindon	England and Wales	Illegitimate Death Rate.
1901	30·6	28·5	11·8	16·9	102·9	151	—
1902	28·3	28·5	12·7	16·3	104·7	133	—
1903	29·5	28·5	11·27	15·5	106·9	132	—
1904	30·0	28·0	12·49	16·3	111·2	145	—
1905	28·4	27·3	11·2	15·3	95·4	128	—
1906	29·4	27·2	9·9	15·5	86·2	132	—
1907	28·8	26·5	12·3	15·1	91·8	118	—
1908	28·9	26·7	11·8	14·8	101·5	120	—
1909	26·5	25·8	10·8	14·6	78·2	109	—
1910	23·4	25·1	9·7	13·5	86·8	105	—
1911	21·6	24·3	10·9	14·6	103·1	130	—
1912	23·4	23·9	10·3	13·3	76·3	95	—
1913	23·39	24·1	12·08	13·8	86·4	108	—
1914	22·5	23·8	11·5	14·0	73·7	105	—
1915	21·16	21·9	12·83	15·7	67·7	110	—
1916	18·9	20·9	11·3	14·4	72·4	91	—
1917	15·5	17·8	12·25	14·4	88·6	96	—
1918	16·53	17·7	15·13	17·6	81·3	97	129·63
1919	16·86	18·5	11·97	13·8	83·9	89	79·52
1920	23·25	25·4	11·64	12·4	69·0	80	122·44
1921	20·27	22·4	9·58	12·1	67·5	83	102·56
1922	18·98	20·6	12·17	12·9	60·5	77	121·95
1923	17·77	19·7	9·27	11·6	53·2	69	83·33
1924	17·11	18·8	10·78	12·2	63·01	75	192·30
925	16·56	18·3	11·09	12·2	60·5	75	52·63
1926	17·09	17·8	10·67	11·6	47·95	70	193·54
1927	14·52	16·7	11.16	12·3	46·98	69	107·14
1928	15·63	16·7	9·92	11·7	36·26	65	51·28

BOROUGH OF SWINDON.

CAUSES OF DEATH, 1928.

(Registrar General's Official Returns).

CAUSES.	MALES	FEMALES	TOTAL
Measles	3	1	4
Whooping Cough	1	6	7
Diphtheria	2	—	2
Influenza	7	5	12
Encephalitis lethargica	—	1	1
Tuberculosis of Respiratory System	21	19	40
Other Tuberculous Diseases	7	1	8
Cancer, malignant disease	47	44	91
Rheumatic Fever	1	1	2
Diabetes	4	6	10
Cerebral Haemorrhage &c.	12	20	32
Heart Disease	60	47	107
Arterio-sclerosis	22	10	32
Bronchitis	9	10	19
Pneumonia (all forms)	24	13	37
Other respiratory diseases	4	5	9
Ulcer of Stomach or duodenum	3	—	3
Diarrhoea &c. (under 2 years)	2	2	4
Appendicitis and typhlitis	2	2	4
Acute and chronic nephritis	9	7	16
Puerperal Sepsis	—	1	1
Other accidents and diseases of .... pregnancy and parturition	—	3	3
Congenital Debility and Malformation, premature birth	10	2	12
Suicide	2	1	3
Other Deaths from Violence	4	4	8
Other defined diseases	49	61	110
Causes ill-defined or unknown	1	—	1
	306	272	578

BOROUGH OF SWINDON.

INFANT MORTALITY.

1928. *Nett Deaths from stated causes at various ages under One Year of Age.*

Compiled from the Official Registrations.

CAUSES OF DEATH.	Under 1 week	1–2 weeks	2–3 weeks	3–4 weeks	Total under 4 weeks	4 weeks and under 3 months	3 months and under 6 months	6 months and under 9 months	9 months and under 12 m'ths	Total deaths under 1 year.
All Causes :—										
Certified	9	1	2	2	14	4	7	4	4	33
Uncertified	....	....	....	....	....	....	....	....	....	....
Small-pox	....	....	....	....	....	....	....	....	....	....
Chicken-pox	....	....	....	....	....	....	....	....	....	....
Measles	....	....	....	....	....	....	....	....	....	....
Scarlet Fever	....	....	....	....	....	....	....	....	....	....
Diphtheria and Croup	....	....	....	....	....	....	....	....	....	....
Whooping-Cough	....	....	....	....	....	1	2	...	1	4
Diarrhoea	....	....	....	....	....	....	....	....	....	....
Enteritis	....	....	....	....	....	....	....	....	....	...
Tuberculous Meningitis	....	....	....	....	....	....	....	....	1	1
Abdominal Tuberculosis	....	....	....	....	....	....	....	....	....	....
Other Tuberculous Diseases	....	....	....	....	....	....	....	....	....	....
Congenital Malformations	2	....	....	1	3	....	....	....	....	3
Premature Birth	3	1	1	1	6	1	....	....	....	7
Atrophy, Debility & Marasmus	1	...	....	....	1	....	....	....	....	1
Atelectasis	....	....	....	....	....	....	....	....	....	....
Injury at Birth	....	....	....	....	....	....	....	....	....	....
Erysipelas	....	....	....	....	....	....	....	....	....	....
Syphilis	....	....	....	....	....	1	....	....	....	1
Rickets	....	....	....	....	....	....	....	....	....	....
Meningitis (not Tuberculous)	....	....	....	....	....	1	1	....	....	2
Convulsions	....	....	....	....	....	....	2	....	....	2
Gastritis	....	....	....	....	....	....	....	....	....	....
Laryngitis	....	....	....	....	....	....	....	....	....	....
Bronchitis	...	....	....	....	....	....	1	....	1	2
Pneumonia (all forms)	1	....	1	....	2	....	....	4	....	6
Suffocation, overlying	....	....	....	....	....	....	....	....	....	....
Other causes	2	....	....	....	2	....	1	....	1	4
TOTALS	9	1	2	2	14	4	7	4	4	33

LIST OF HOSPITALS PROVIDED OR SUBSIDISED BY THE LOCAL AUTHORITY OR BY THE COUNTY COUNCIL.

TUBERCULOSIS.	Two beds at Winsley Sanatorium, near Bath, provided by the local authority.
MATERNITY.	A Maternity Hospital of 13 beds provided by the local authority.
CHILDREN.	Nil.
FEVER.	A fever hospital provided by the Swindon and District Hospital Board. (About 90 beds.) Taken over by the Town Council on the 1st October, 1928.
SMALL POX.	A Smallpox Hospital provided by the Wilts County Council.
VENEREAL DISEASES.	A hospital with 6 beds provided by the Wilts County Council.

LIST OF CLINICAL TREATMENT CENTRES IN THE BOROUGH OF SWINDON.

Name of Clinic.	Where held	Days and hours of attendance	By Whom Provided.
Maternity and Child Welfare	61, Eastcott Hill	Mondays, Wednesdays & Fridays, 2.30 p.m. to 4.30 p.m.	Swindon Corporation
Maternity and Child Welfare	Girls' Club, St. Paul's Street	Tuesdays, 2.30 p.m.—4 p.m.	,, ,,
Maternity and Child Welfare	Primitive Methodist School, Romsey St.	Thursdays, 2.30 p.m.—4 p.m.	,, ,,
Ante-Natal Clinic	Maternity Home, Milton Road	Tuesdays, Wednesdays and Fridays, 2.30 p.m.—4.30 p.m.	,, ,,
Minor Ailments	61, Eastcott Hill	Every morning 9 a.m.—11 a.m.	,, ,,
Dental Clinic	Faringdon Road	Daily 9.30—12.30 a.m. & 2—5 p.m. (Saturdays 10—12.30 p.m.)	,, ,,
Eye Clinic	Faringdon Road	Tuesdays 2—4 p.m. and Alternate Tuesdays, 9—11 a m.	,, ,,
Ringworm Clinic	61, Eastcott Hill	Tuesdays, 2—5 p.m.	,, ,,
Throat, Nose & Ear Clinic	,, ,,	Mondays, 2—5 p.m.	,, ,,
Enlarged Thyroid Glands	,, ,,	Thursdays, 2—5 p.m.	,, ,,
X'Ray Clinic	,, ,,	Thursdays, 2—5 p.m.	,, ,,
Electrical Treatment (General)	,, ,,	Mondays, 2—4 p.m.	,, ,,
Electrical Ionization Clinic	,, ,,	Fridays, 2—4.30 p.m.	,, ,,
Observation Clinic	,, ,,	Saturdays, 9.30 a.m.—12 noon	,, ,,
Tuberculosis Clinic	Tuberculosis Dispensary, Milton Road	Thursdays, 11 a.m.—1 p.m.	Wilts County Council.
Venereal Diseases Clinic	Isolation Hospital, Gorse Hill	Men. Wednesdays, 7—8.30 p.m. Fridays, 6—7.30 p.m.	
		Women and Children— Mondays, 5—6.30 p.m. Fridays, 2—3.30 p.m.	Wilts County Council
Orthopaedic Clinic	Isolation Hospital Grounds, Gorse Hill	Tuesdays, 11 a.m.—5 p.m.	Voluntary Association

AMBULANCE FACILITIES.

(a)	For Infectious Diseases	Two Motor Ambulances are supplied by the Swindon and District Hospital Board. (Taken over by the Town Council on the 1st October, 1928).
(b)	For non-infectious and accident cases.	A Motor Ambulance is provided by the Swindon Town Council.

LIST OF LOCAL ACTS, SPECIAL LOCAL ORDERS AND GENERAL ADOPTIVE ACTS IN FORCE IN THE DISTRICT.

Local Acts and Orders.

The Swindon Corporation Act, 1904.
Swindon Water Act, 1894.
Swindon (Water) Orders of 1902 and 1919.
Swindon Tramway Order, 1901.
Swindon New Town Electric Lighting Order, 1895.
Swindon Corporation (Wilts and Berks Canal Abandonment) Act, 1914.
The Swindon Order, 1923.
The Swindon Order, 1925.
Swindon Corporation Act, 1926.
The Swindon Order, 1927.
The Swindon (Extension) Order, 1928.

Adoptive Acts in Force.	Date of Adoption.
Infectious Diseases (Prevention) Act 1890	11th March, 1902
The Museums & Gymnasiums Act, 1891	6th June, 1905
The Public Health Acts Amendment Act, 1890	11th Nov., 1890
The Local Government and Other Officers Superannuation Act, 1922	1st July, 1924

The Public Health Acts Amendment Act, 1907 :—	
Section 85 (Registries for Servants)	22nd Dec., 1926
Part III. Secs. 36, 37, 49, 50 and 51. Part IV. Secs. 62, 64 and 65. Part X. Sec. 93.	3rd Jan., 1927

The Public Health Act, 1925 :—	
Part II. (except secs. 20, 24 and 29). Part III. Part IV. Part V.	1st Feby., 1927

APPENDIX.

BOROUGH OF SWINDON.

ANNUAL REPORT

OF THE

Chief Sanitary Inspector,

F. H. BEAVIS,

For the Year 1928.

To the Chairman and Members of the Health, etc., Committee.

Ladies and Gentlemen,

I have the honour of submitting my third Annual Report dealing with the work carried out by the Sanitary Department during the year ended 31st December, 1928.

Appended hereto will be found the tables giving full particulars of the inspections made during the year in conformity with the requirements of the Ministry of Health.

1928 was another busy year in the Sanitary Department, as will be seen from a perusal of the following tables. The personnel of the staff underwent no change, but in May the third assistant sanitary inspector, Mr. J. Bowers, obtained the certificate of the Royal Sanitary Institute for Meat Inspection—having obtained his practical training in the Department. The most important event which occurred during the year was the addition of the new area on the extension of the Borough. This considerably increased the work of the Sanitary Department as new records have to be made and kept. As I mentioned in my last year's report, Swindon is continually growing, and new houses are being erected in all directions. This is all to the good, but considerably adds to the work of the Department.

FOOD SUPPLY.

The following gives a résumé of the work carried out under the Meat Regulations. There was a total of over 15,650 animals slaughtered for human consumption within the Borough during the year, everyone of which was seen by your Inspectors. In this way the public are adequately safeguarded when consuming meat from animals slaughtered in Swindon, but there is also a considerable traffic in 'dead' meat from outside districts and constant watchfulness is necessary in order to ensure to our citizens a wholesome meat supply.

The unsound food destroyed during the year amounted to just over 40 tons. This figure is not quite so high as last year, but this is accounted for by the fact that in 1927 there was over 8 tons of diseased potatoes. The work of supervising the people's food supply is of the utmost importance, but entails a tremendous amount of travelling and in these days of quick-moving traffic is often performed under considerable difficulties. The provision of a motor car is urgently needed if the work is to be properly carried out in the future.

The question of the provision of a Public Abattoir is still being considered by your Committee and no doubt some decision will be arrived at in the near future. The advisability of a Public Abattoir is obvious, because the very nature of the business carried on in a slaughter-house is objectionable and can be only practised under ideal conditions in a Public Abattoir.

The number of small shops in the Borough where cooked meat is sold continues to increase. These premises are kept under constant supervision by your Officer, but control would be greatly simplified if all purveyors of food were required to be registered or licensed.

One case for having diseased meat came before the Borough Justices during the year, when a fine of £15 and £5 costs was imposed upon each of the defendants.

MILK AND DAIRIES.

Swindon is in a very fortunate position so far as its milk supply is concerned, being an industrial centre planted in the midst of an agricultural district where milk production is carried on to a very great extent. This enables the inhabitants of the Borough to receive their milk supply direct from the farms with a minimum of handling, and on the same day as it is produced. Unfortunately, owing to pressure of work in other directions, the bacteriological examination of milk had to be somewhat curtailed during the year, but it is hoped that in the near future more time will be available for this work.

There are at present two farms and one bottling establishment within the Borough licensed for the production and bottling respectively of Grade A (Tuberculin Tested) milk. One subsidiary licence to sell this grade of milk has also been granted to a dairyman at Burderop, whilst Grade A milk is being retailed in the Borough from a farm at Hodson.

HOUSING.

The housing problem is slowly solving itself, but there is still a considerable amount of overcrowding in the Borough. This is practically confined to the poorer classes of the community who, as I have said on previous occasions, are unable to purchase a house of their own in which to live. The plight of these people is sometimes pitiful, because it is very often found that their inability to purchase a house is a result of having to rear a large family.

TENTS, VANS AND SHEDS.

There are still a few caravans within the Borough in which people are living, but very little trouble from this class of the community has been experienced during the year. Constant supervision is exercised in each case and the bye-laws relating to these structures are strictly enforced.

THEATRES, CINEMAS, Etc.

There are at present :—six cinemas, one theatre, one billiard saloon and three dancing halls within the Borough. These premises are visited at frequent intervals and every effort is made to see that they are kept in a satisfactory condition.

RATS AND MICE DESTRUCTION ACT, 1919.

The year under review proved to be exceptionally favourable for the propagation of the species of both rats and mice, and during the autumn there was a tremendous influx of these vermin at the Tips and Sewage Farms. The Tips provide the rat with ideal winter quarters, owing to the spontaneous heating and the abundance of food. It is only by waging a continual and persistent warfare that these pests can be kept under.

A perusal of the table under this heading will show that much useful work is being carried out.

I am, Ladies and Gentlemen,

Your obedient Servant,

F. H. BEAVIS,

Chief Sanitary Inspector.

SANITARY STATISTICS.

TABLE OF NUISANCES RECORDED AND ABATED 1928.

Nature of Complaints registered.	Defects brought forward from 1927	Complaints received and visited during 1928.	Total	No. of complaints abated during 1928	No. of cases not abated at end of year.
Defective drains	9	28	37	29	8
,, traps	1	12	13	13	—
,, spouts and eaves troughing	19	76	95	65	30
,, roofs	31	108	139	77	62
,, and dirty W.C. pans	8	25	33	25	8
,, floors	12	67	79	55	24
,, and insufficient yard paving	8	28	36	23	13
,, walls	19	73	92	65	27
,, flushing cisterns	5	16	21	20	1
,, ceilings	18	65	83	59	24
,, forecourts	—	5	5	4	1
,, sinks	8	4	12	12	—
Offensive animals	—	5	5	5	—
Offensive accumulations	1	72	73	71	2
Choked drains	2	89	91	75	16
Damp walls	3	17	20	15	5
Dirty rooms	62	280	342	268	74
Overcrowding	4	18	22	12	10
Absence of covered receptacle at butchers' premises.	2	6	8	7	1
Miscellaneous	79	472	551	462	89
TOTALS	291	1466	1757	1362	395

VISITS AND INSPECTIONS, 1928.

Infectious Disease	443
Work in course of construction	774
Slaughterhouses	4485
Bakehouses	91
Dairies, Cowsheds and Milkshops	347
Markets	355
Outworkers	86
Common Lodging Houses	20
Fried Fish Shops	431
Re-visits	2754
Miscellaneous	2790
Workshops	429
Ice Cream Shops	232
Butchers' Shops	409
Contacts with Small Pox	45
Pig-killing on private premises	68
House to House Inspections	177
	13936

DEFECTS IN OUTWORKERS' PREMISES.

Dirty Ceilings	14
Dirty Walls	15
Defective Roofs	4
,, Water-closets	—
,, Floors	2
,, Yard Paving	—
,, Firegrates	—
,, Walls	6
,, Drains	1
Other Defects	12
	54

INSPECTION OF FACTORIES, WORKSHOPS AND WORKPLACES.

INCLUDING INSPECTIONS MADE BY SANITARY INSPECTORS OR INSPECTORS OF NUISANCES.

Premises (1)	Number of		
	Inspections (2)	Written Notices (3)	Occupiers Prosecuted (4)
Factories .... (Including Factory Laundries)	88	2	Nil
Workshops .... (Including Workshop Laundries)	301	8	Nil
Workplaces .... (Other than Outworkers' premises)	40	—	Nil
TOTAL ...	429	10	Nil

DEFECTS FOUND IN FACTORIES, WORKSHOPS AND WORKPLACES.—Continued.

Particulars. (1)	Number of Defects.			Number of Offences in Respect to which Prosecutions were Instituted. (5)
	Found (2)	Remedied (3)	Referred to H.M. Inspector. (4)	
Nuisances under the Public Health Acts :—*				
Want of cleanliness	33	32	....	....
Want of ventilation	3	3	....	....
Overcrowding	....	....	....	....
Want of drainage of floors	....	....	....	....
Other nuisances	14	12	....	....
Sanitary accommodation: insufficient	—	....	....	....
Sanitary accommodation: unsuitable or defective	9	9	....	....
Sanitary accommodation: not separate for sexes	....	....	....	....
Offences under the Factory and Workshop Acts:-				
Illegal occupation of underground bakehouse (s.101)	....	....	....	....
Other offences (Excluding offences relating to outwork and offences under the Sections mentioned in the Schedule to the Ministry of Health (Factories and Workshops Transfer of Powers) Order, 1921).	.. .	....	....	....
TOTAL	59	56	....	....

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* Including those specified in sections 2, 3, 7 and 8 of the Factory and Workshop Act, 1901, as remediable under the Public Health Acts.

DISINFECTANTS.

Number of Applications		2573
Number of Applications Granted		2573
Quantity given:	Fluid	314¾ galls
	Powder	3cwts. 1qr. 19lbs.

DISINFECTION.

Cases of	Infectious Disease	381
,,	Cancer	18
,,	Consumption	103
,,	Small-Pox	53
Verminous Rooms		149
Number of Lots of Bedding destroyed		51
Number of Lots of Bedding disinfected		502
School Shawls disinfected		36
Library Books disinfected		81
Animals destroyed		11
Miscellaneous Articles disinfected		1351
No. of School Rooms disinfected		26

DAIRIES, COWSHEDS AND MILKSHOPS.

Dairies and Milkshops	50
Cowsheds	21
Milk Purveyors from outside the Borough	27
	98

There are two farms and one bottling establishment licensed for the production and distribution of Grade A (Tuberculin Tested) Milk within the Borough.

One subsidiary licence was granted for the retailing of Grade A (Tuberculin Tested) Milk.

Inspections	347
NUISANCES FOUND—	
Dairies requiring limewashing	25
Cowsheds requiring limewashing	17
Dirty yards	2
Defective paving	1
Offensive accumulations	1
Defective ceiling plaster	—
Unsuitable and dirty utensils	—
Milk and containers uncovered	2
Defective floors	1
Defective vent shafts	2
Dirty conditions	4
Insufficient water supply	—
Choked drains	—
Defective watercloset	1
	56

SLAUGHTERHOUSES.

Registered	8
Licensed	12
TOTAL	20

Number of Inspections	4485
NUISANCES FOUND—	
Requiring limewashing	13
Want of cleanliness	9
Insanitary condition of pens and yards	6
Offensive accumulations	14
Choked drains	4
Other defects	4
TOTAL	50

COMMON LODGING HOUSES.

On Register	1

Number of persons for whom accommodation is provided :—
Adults 111. Children 8.

Inspections .... 20.

RATS AND MICE (DESTRUCTION) ACT, 1919.

The following is a table showing the work carried out by your officer under the above Act during the year under review :—

Rats caught	Complaints Received.	Due to Defects of Drains or Sewers.	Due to Structural Defects.
7,269	143	30	28

BAKEHOUSES.

Factory Bakehouses	11
Workshop Bakehouses	16
Domestic Bakehouses	1
Total	28
Number of Inspections	91

Nuisances Found—

Limewashing overdue	19
Dirty yards	—
Ceilings requiring re-painting	1
Choked drains	—
Dirty W.C. pans	—
No separate accommodation for sexes	—
Accumulations of manure	—
Defective yard paving	1
,, vent shafts	1
Want of cleanliness	2
Other defects	7
Total	31

FOOD SUPPLY.

There are on the registers of the Department—

Butchers Shops	90
Butchers Stalls (in covered market)	3
Wholesale Meat Store	1
Fried Fish Shops	36
Ice Cream Shops	146
Cooked Meat Shops	37

and these premises are regularly inspected by your officers.

MEAT AND FOOD DESTROYED.

	Tons	cwts.	qrs.	lbs.
Carcases of Beef and Offal	28	19	3	15
Portions of Beef and Offal	4	8	0	17¼
Carcases of Veal		1	1	6
Portions of Veal			3	16
Carcases of Mutton and Offal		1	3	0½
Portions of Mutton			1	26½
Carcases of Pig and Offal	1	0	3	17
Portions of Pig		10	3	4
Carcases of Goat and Offal			1	19
Heads	1	6	1	24¼
Hearts				2½
Kidneys			1	3¾
Livers		5	1	9½
Lungs		14	0	12½
Plucks		4	0	16½
Offal	2	0	0	10½
18 Tins of Beef			2	10½
Potatoes		3	0	4
Brawn		2	0	12
Rabbits				10½
Turkeys			1	24
5½ tins of Prawns			1	6
Fish			3	6
Butter				12
Fowls				6
5 containers of Potted Meats				
	40	2	2	11¾

PUBLIC HEALTH (MEAT) REGULATIONS 1924.

The following is a table showing the number of carcases inspected during the year, together with the average per week.

	Beasts	Calves	Pigs	Sheep	Total
Total Inspected	1395	2126	6179	5960	15660
Average per week	26.83	40.88	118.83	114.61	301.15

CLASSIFICATION OF DISEASES FOUND IN THE UNSOUND FOOD.

	Tons	cwts.	qrs.	lbs.
Abscesses		3	3	9½
Amyloidosis				25
Angioma				26
Bone Taint		1	0	15
Bruising	1	13	3	6½
Contamination				12
Cirrhosis		8	0	11
Cystercercus Tenuicollis			1	13
Decomposition		4	0	24½
Distomum Hepaticum		8	2	23
Emaciation	4	5	0	1
Echinococcus Veterinorum			1	10
Endocarditis		10	2	2
Hypernephrosis				¾
Ill-bled	1	4	1	20
Immature				26
Inflammation	1	17	3	23
Johnes Disease	4	0	0	26
Mastitis	1	5	2	12
Melanosis			1	15
Moribund		1	1	10
Oedema	2	2	3	8
Osteomyelitis		6	2	14
Necrosis			1	26
Nephritis			3	10
Parturition			1	12
Pericarditis		6	3	6½
Pericarditis Septic	1	4	2	0
Peritonitis		1	0	0
Pleurisy			3	9
Pneumonia			3	16
Sarcoma		2	3	14
Septicæmia		8	0	24
Septic Metritis		4	2	20
Strongylus Rufescens				19½
Toxæmia		11	3	19
Tuberculosis	16	4	0	11¼
Unsoundness	1	18	1	6¼
Urticaria			1	17
	40	2	2	11¾

TABLE SHOWING THE RESULTS OF BACTERIOLOGICAL EXAMINATION OF MILK SAMPLES.

Sample	Organisms per $\frac{1}{1000}$ c.c.	T.B.	Coli per $\frac{1}{10}$ c.c.	Sediment.
No. 1	Plate org. & B. Subilitis.	—	—	—
,, 2	Less than 10	—	—	+
,, 3	11000	—	+	+ —
,, 4	430	—	—	—
,, 5	11000	—	—	—
,, 6	140	—	—	—
,, 7	10000	—	+	+ —
,, 8	300	—	—	— +
,, 9	Plate org. & B. Subilitis.	—	—	—
,, 10	11000	—	+	—
,, 11	830	—	+	+
,, 12	200	—	—	+ —
,, 13	Less than 10	—	—	+

HOUSING.

Number of new houses erected during the year :—

(*a*) Total (including numbers given separately under (*b*)	220
(*b*) With State assistance under the Housing Acts :—	
(i) By the Local Authority	10
(ii) By other bodies or persons	206

I. Inspection of Dwelling-Houses During the Year :—

(1) Total number of dwelling-houses inspected for housing defects (under Public Health or Housing Acts)	803
(2) Number of dwelling-houses (included under sub-head (1) above) which were inspected and recorded under the Housing Consolidated Regulations, 1925	177
(3) Number of dwelling-houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation	—
(4) Number of dwelling-houses (exclusive of those referred to under the preceding sub-head) found not to be in all respects reasonably fit for human habitation	735

II. Remedy of Defects During the Year Without Service of Formal Notices.

Number of defective dwelling-houses rendered fit in consequence of informal action by the Local Authority or their officers	729

III. Action under Statutory Powers During the Year.

A. Proceedings under Section 3 of the Housing Act, 1925 ;

(1) Number of dwelling-houses in respect of which notices were served requiring repairs	21
(2) Number of dwelling-houses which were rendered fit after service of formal notices—	
(a) By Owners	20
(b) By Local Authority in default of owners	—
(3) Number of dwelling-houses in respect of which Closing Orders became operative in pursuance of declarations by owners of intention to close	—

B. Proceedings under Public Health Acts :—	
(1) Number of dwelling-houses in respect of which notices were served requiring defects to be remedied	6
(2) Number of dwelling-houses in which defects were remedied after service of formal notices—	
(a) By Owners	6
(b) By Local Authority in default of owners	—
C. Proceedings under Sections 11, 14 and 15 of the Housing Act, 1925 :—	
(1) Number of representations made with a view to the making of Closing Orders	—
(2) Number of dwelling-houses in respect of which Closing Orders were made	—
(3) Number of dwelling-houses in respect of which Closing Orders were determined, the dwelling-houses having been rendered fit	—
(4) Number of dwelling-houses in respect of which Demolition Orders were made	—
(5) Number of dwelling-houses demolished in pursuance of Demolition Orders	—